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Stock-Raising and Dairying in the South.

By H. B. Witzell.

Those who travel from the rich prairie lands of the upper Mississippi valley region or the well-cultivated districts of the Ohio valley, on their way to New Orleans or to the winter resorts of Florida, will probably see but little along the route to impress them that the South, of which they have heard so much, is now, or is likely to become in the future, an important factor in stock-raising in the United States. The same may be said of the many thousands of tourists, business men and others—and many of them men of keen observation—who annually visit the far Southern winter resorts, following the Atlantic coast line railways to and from their points of destination. But let the latter class who come from Boston, New York, Philadelphia, Baltimore, Washington and the territory tributary to those cities pass over the Shenandoah Valley, Norfolk & Western and the East Tennessee, Virginia & Georgia railway systems and they will get an entirely different impression from that gained by going over the coast-line routes, although the best impression which they get can be but an imperfect view of the present condition of stock-raising, and much less of the possibilities in that direction in the South. I mention this fact as a preliminary observation, for the reason that many Northern people—and indeed some Southern people too—who are unfamiliar with the true state of affairs, have wrong impressions as to Southern conditions.

An old friend whom I visited last summer in one of the Middle States, a rich farmer, stock-grower and dairyman, who was one of the tourist class I have mentioned, and who had received impressions of the South as a stock-raising and dairying region from a trip to Florida and New Orleans and return by the coast-line railways, said to me: "Why, I didn't see enough grass to keep a cow, and at the hotels condensed milk and Northern butter were used." While the statement was largely a humiliating fact, yet I assured him that he should not form such an opinion of the South as a whole, and that if he would come with me I could show him not only good stock in the South, but lands admirably adapted for grazing and dairying purposes—and no small area either—and I could also find native butter and milk sweet and pure as that from his own dairy. I believe that the fellow thought I had a big job on my hands when I made him that promise, but not long ago I had an opportunity to fulfill my pledge.

The man had made considerable money in lumbering operations and timber land investments in one of the Northwestern States and desired to make further investments in hardwood timber lands in the middle South, if I could find such a tract as he described within a certain district. Several years ago I had examined a well-timbered tract with a view of buying, but the boom period coming on about that time raised the owner's hopes and ideas beyond the reach of prudent buyers. Several months ago, learning that the owner had again become rational and "clothed in his right mind" for a trade, I examined the

land carefully as to its timber and negotiated a sale for my friend, subject to his examination and approval. The land lay twenty miles distant from the nearest railway, but a new railway line, now under construction, will be completed within a few miles of the land in the near future.

We rode on horseback after we left the railway station, at times leaving the wagon roads and trails and striking through the dense woods on our way to make final examination of the tract of land. Every mile of the distance revealed new surprises to my friend. We passed places where proper attention had been given to the cultivation of the crops and promised a bountiful yield. The red clover was just ready for the scythe, and in places it was waist high; in others a thick matted and tangled mass, which had grown so rank and high that it had fallen down and covered the ground thickly, unfit for hay, but as good as a coat of manure for a fertilizer. The timothy and red-top and blue grass were thick, tall and rank. Exclamations of surprise came repeatedly from my companion, such as "just look at that grass; why that land is black and rich and loamy as the best prairie lands or Missouri river bottoms. I never saw the like of it before in a mountain country, and especially on high mountains like these. And the land is almost free from rocks. Why, on the mountains in my State, or at least the part of it that I am acquainted with, the land is so rocky and poor that you can't raise a disturbance on it, and if it is rich enough to raise huckleberries the owner thinks he is well off." My companion was not only well pleased with what he saw, but bought the tract of land and is now negotiating for a large tract of land adjoining his purchase.

This land lies in one of the western counties of North Carolina, amongst the high mountains, and having for its surface rocks feldspar, hornblende and associate formation, containing the elements of potash, soda, lime and others rich in fertilizing material, and when decomposed and mixed with the constantly-decaying vegetable matter which overlies it becomes soil highly favorable for grasses, grain, vegetable, fruit and forest growth.

I cite this instance as somewhat characteristic of a large portion of the higher mountain districts and of the older geological formation in the States of West Virginia, Virginia, Tennessee, North and South Carolina and Georgia. When I first began exploring these regions for timber several years ago I was astonished, like my friend whom I have mentioned, at the wonderful fertility of the soil in many places, especially in the coves having northern exposure, the soil being a loose, rich, black or very dark loam. But when I ascended the higher mountains, and even to the summits of the highest peaks, found fewer surface rocks and the soil apparently blacker and richer, I was utterly amazed.

One will find this to be true, with few exceptions, of the higher mountain regions of the Blue Ridge and Smoky mountain systems from West Virginia to Georgia. I remember a ride one early June day several years ago in company with Big Tom Wilson, a noted local character, who found the body of the late lamented Professor Mitchell, who lost his life near the summit of the mountain which now bears his

name, and the highest point of land on our continent east of the Rocky mountains. Mount Mitchell is one of more than twenty peaks over 6000 feet high in the Black mountains, a short cross chain about twenty miles in length, which shoots off almost at right angles from the main Blue Ridge range. It is situated in Yancey county, N.C. We rode up the mountain on the Cane river side on horseback over an old but now little used trail. Poplar trees of immense size, as well as other kinds of deciduous growth, covered the ground densely until about half way up the mountain, when the conifers set in, spruce and balsam, and thence to the very summit it was one dark, sombre forest.

As large timber is indicative of good soil, I wish to mention that on my way up the mountain I measured one poplar tree with tape line which had a girth of twenty-seven feet nine inches, one of the largest I ever measured, and it contained, according to calculations that I made at the time, upwards of 20,000 feet of lumber, board measure. On the summit of Mount Mitchell and not more than 100 yards from the then rude grave of Professor Mitchell was a small patch of ground where the balsam timber had been removed a few years before. This ground was covered with a thick mat of most nutritious grass, and so early in the season was knee-high. We tethered our horses in this grass plot, and I never saw any animals that apparently enjoyed grass more than this. Big Tom Wilson is the overseer of a large estate in the Black mountains belonging to some New York gentlemen, and a large herd of cattle grazes upon these lands. Other parts of these mountains and adjacent ranges are almost equally as rich, and thousands of head of cattle grow fat upon the native pasturage during the season when they are grazing, which is usually from about the 10th of April to the 20th or 30th of October. In my timber explorations during the grazing season, when often alone and in those vast silent forests, I was frequently reminded of some of the evidences of civilization which had preceded me, when I listened to the sweet music of the tinkling cow-bells in the distance, even though my bed at night was under the protecting branches of a friendly tree and a fire my mute but cheerful companion.

The herders who look after the stock, salting them at regular times about once a week or sometimes less frequently and seeing that the animals do not stray too far away, take care of 150 to 250 head for each man. The salting places are usually on or near the summit of some mountain or ridge, or in some gap or depression of the same, and like deer and other wild animals of that class, the cattle frequently visit these salting places.

Sometimes the timber is cut off from half an acre or more of land at these places, and soon thereafter blue grass starts up and covers the ground with a dense mat of nutritious grass, for it seems to be indigenous. On many of the higher mountains are bare places, or "balds," having no timber, nor have they had within the memory of the white race or legendary history of the red men, and these "balds" are covered with nutritious grass which affords good grazing.

There is one feature in this connection which must not be overlooked, for it is of much importance in grazing. There is an abundance of clear, pure water everywhere, and there is an almost entire absence of insect pests. If there is a better watered region anywhere I should like to know where it is. The whole region abounds in perennial springs, many of them of mineral or chalybeate character. When one reaches altitudes of 4000 feet and upwards above sea level flies are seldom seen, and certainly are not troublesome to man or beast.

I traveled through these mountains for several years, and in all that time I do not now remember to have seen, felt or heard a dozen mosquitoes on the higher altitudes, and not enough to annoy one on the lower ones.

There is a native plant growing in the rich, damp and dark coves, known as the "wild pea vine," which is wonderfully nutritious, and cattle, horses and mules grow fat upon it in an almost incredibly short space of time. My attention was first called to it and its nutritious properties soon after I began my explorations for timber. One day, about the first of June, I had been examining a tract of timber in a large rich cove, known as "Buckeye Cove." The poplar timber was magnificent, and toward the head of the cove there was some excellent cherry timber, but the predominant growth was buckeye, and hence the name of the cove. Let me here state that, as an evidence of rich soil in these mountains, I only want to know that there is an abundant growth of large buckeye timber. I have seen buckeye trees three to four feet in diameter, with smooth trunk without branches for more than sixty feet, and in striking contrast to the same species, the horse chestnut, which one sees as a shade tree in many towns and cities North and South, but these seldom attaining a diameter greater than twelve inches. I had heard the tinkling of cow bells all day in Buckeye Cove, and saw frequently some of the stock, mostly two and three-year-old steers, but amongst the number yearlings and cows from which the calves had been weaned but a short time. Many of them were short-haired, sleek, round and fat, and that was what astonished me, to see them in such good condition so early in the season. In the evening I came to the herders' cabin, and with that generous hospitality, so characteristic of the mountaineers in all conditions of life, they urged me to stay all night and remain as long as I desired.

They informed me that they were herding about 500 head of cattle, and then explained that the stock had fattened so rapidly upon the wild pea vine which grew abundantly in Buckeye Cove.

Most of the stock which grazes upon these higher mountains is owned by men having farms in well-settled districts, where they provide hay, fodder, straw and grain for the stock during the late fall and winter season. A number of farmers may join together in sending their stock to the mountains in charge of a herder and provide salt during the grazing season, and for his services in caring for the stock pay from \$1.00 to \$1.50 per head. The grazing privilege from the owner of the mountain

land, together with the salt and herder's services, costs the owner of the stock from \$1.50 to \$2.00 per head during the grazing season, which averages about six and a-half months in the year. As soon as the stock is brought in from the range buyers are usually on hand, and even sometimes while the stock is on the range, and they buy the two, three and four-year-old steers and many of the cows, most of which are in prime condition and many fat enough for the butcher. The buyers then ship them to distant markets.

The grazing privileges on these mountain lands when held by non-resident owners is merely nominal. I am interested in the ownership of a large tract of timber land in one of the western counties of North Carolina, which is also a fine grazing tract, for the wild pea vine grows in abundance, and for several years we have leased the land for grazing privileges upon the payment of the taxes upon the land, which is relatively a small sum. Adjoining our land is a tract which is known as the "winter range," where the grass grows thickly under the dense balsam timber, and here is natural food and shelter for stock throughout the winter at an altitude of more than a mile above sea level.

One reason for the grass growing spontaneously in the higher altitudes and thriving so well, where the soil and exposure conditions are favorable, can no doubt be found in the humid condition of the atmosphere. The air is nearly always moist, and during the summer season the mountains, and especially towards their crests, are visited by frequent showers.

One may witness from the valleys below almost any day in summer upon the summits of the higher mountains a storm cloud or mist passing over or resting upon them. The reasons for this appear obvious. During the higher temperature of the valleys or on the lower elevation the heated air rising strikes the cooler stratum of air above, which induces motion or movement, often tending toward the direction of the mountains, and hence either condensation and precipitation or fog ensues, and the mountains get a full share. Of course at present we may look upon this vast grazing area to a great extent as being in a primeval condition, and I have treated the subject as such, but I think that I have indicated sufficiently that there is a basis for a great future grazing industry for those who shall subdue the wilder aspects of nature and bring this wonderfully-interesting field into subjection and into the hands of the scientific and progressive stock-grower.

What I have said about stock has had reference to cattle. A volume might be written about the Southern Alleghany mountain region as being adapted for sheep-raising. Few sections of our country surpass it in that respect. Possibly the ridge lands and the lower mountain ranges may be as well adapted for sheep-raising as the higher mountains on account of less humidity of the atmosphere, but I have seen as fine sheep on altitudes of 4000 feet or more above sea level as I have seen in the valleys. Probably nowhere do sheep reach a higher order of development, and people eat as good mutton as in England, where the climate is excessively moist. Here the fault of not raising more sheep is not lack of natural conditions, but the unwise laws that allow dogs, the enemies of sheep, greater privileges than the citizen.

I have given some of the essential features of the adaptability of the South as a stock-raising country. I do not mean the South as a whole, but that portion of the more elevated region embraced within the southern Alleghany mountain system and some adjacent territory.

It is a lamentable fact that the South buys too much of that which she consumes from markets outside of her own territory, much of which, if not the greater portion, could be produced at home were the proper

efforts put forth in that direction; and so long as this condition continues the South will be that much poorer in consequence. It is a very important question from an economic standpoint to every community, State or nation, when they send away their money to purchase commodities from foreign ports or countries that ought to remain at home. Within the last few months the question of the "balance of trade," being against us in our commercial relations with foreign countries, has shown itself in an emphasized manner to the American people during these trying financial times; and the nation is simply the representative of aggregated communities.

In talking with the steward of a large hotel in one of our Southern cities a short time since, I asked him where he bought the butter used in the hotel. He replied: "Oh, I buy Elgin creamery butter. I can't depend upon the quality that I get in our home markets. Sometimes I get very good butter, while at other times it is not fit to eat. There is no uniformity about it, and to be sure of what I am going to get I buy the Northern Elgin creamery butter, and then know that what I get will give satisfaction."

Now this is but an illustration of a condition which is a humiliating fact, that applies not only to the city referred to, but the larger portion of the South, in respect to poor homemade butter. It is all the more inexcusable when we consider the natural advantages, many of them excellent, for making good butter, which a considerable portion of the South possesses. These advantages are good pasturage, an abundance of pure cold water, the lengthened season during which the cows may feed upon open pasturage, and other points of minor importance.

Butter-making is a science, and it is only the few in a community where butter is made for family use or for the market who appear to understand the science involved in it, unless taught by those who are familiar with good butter-making.

Even then, unless working under favorable conditions, the results may not always be satisfactory. Poor butter may be said to be the rule rather than the exception throughout almost the entire butter-making districts of the South. The chief trouble seems to be that it is not worked enough; too much buttermilk remaining, the butter soon becomes strong or rancid. Some of it is soft and mushy as warm lard, and is better suited for axle grease than for the table. As some one has expressed it, "they fail to put enough elbow grease into their butter." Some of the butter that comes to market shows attempts towards results artistic rather than scientific, in the manner displayed in impressions made upon the light-weight pound rolls or lumps from the working ladle. But an artistically indented or adorned roll of butter adds nothing to the quality, which is the prime essential.

It is not my purpose to enter into a discussion of the science of butter-making, but to say something of the opportunities afforded in the region referred to in the beginning of this paper to those who may want to engage in a profitable industry in this neglected field. Probably nine-tenths of the farms in the section mentioned, where grass grows or can be made to grow abundantly and profitably with proper efforts in the right direction, have either cold spring water or clear running streams, admirably suited for dairying purposes. Indeed, few countries surpass, if they equal, this region in that respect, so that the average farmer may be able to make good butter if he will give it the attention which it demands. This not only applies to the valleys, but even to the more elevated regions of our highest mountains.

With better roads and easier communication, so that milk can be concentrated at convenient points in the well-settled dis-

tricts, in time no doubt creameries will be established in a great many places throughout the region. But at present, and until then, there are ample opportunities for many farmers to make good butter, which will at all times command steady and good-paying prices throughout the year.

An erroneous impression prevails to a great extent throughout the farming sections that butter-making for the market is "a small business." It is in a certain sense, and because they make it so. It can be made of vastly more importance than they seem to realize. It is one of the most honorable branches of agricultural industry and equally as profitable where the natural conditions are favorable and proper attention given to it. I see no reason why it is not equally as honorable employment and as conducive to intellectual stimulus and enjoyment as that of raising hogs, mules, corn and cotton. Where will one find in an agricultural community a more thrifty, intelligent, well-dressed, orderly people than where dairying is the chief industry? Where will one find better schools, more church buildings, better citizens, and where do the people live better and enjoy themselves more than in any rural community than the dairy people? The weight of the argument is in favor of this industry instead of against it.

I could point out a number of instances to show that this dairying industry will pay well in the region referred to, but one will suffice to illustrate what I want to say upon that point. About ten years ago two unmarried brothers owned a farm with some wood land—limestone land—which they had brought under a fair state of cultivation by clover fertilization. It was good grass land, and a large spring of cold water near the house was a prominent feature of the place. Here the original forest trees were allowed to remain about the spring, and in time a commodious stone structure, or "spring-house," was built. The brothers found that the milk and butter always kept cool in this spring-house, and they soon found that their butter was in demand. They increased the capacity of their dairy, but the demand kept ahead of the supply. They were intelligent men and studied the science of butter-making, and before long found a market for all they could make, and at fancy prices, too, with one firm in a city 300 miles away, to whom they shipped their product every day, though living six miles from the railroad.

Now, the interesting part is to learn the result. Today these men are engaged in the dairying business more extensively than ever. Their butter is in greater demand, if possible. They have others to do the most of the work, while they are among the most highly respected citizens of their county. They entertain royally, have added greatly to their former holdings in land, are out of debt and have money in bank and income-bearing securities, and are in independent circumstances. Some of their neighbors who raised corn and wheat and hogs as selling products used to sneer at these two brothers who were engaged in "a mighty small business," but the tables are turned, for the dairymen own embellishments on several of their neighbors' farms in the shape of good-sized mortgages. I have often thought, as I enjoyed the hospitality of these men, what a lesson they should teach others in their own community, for the natural conditions for dairying in their case were no better than others in their section, and there are thousands of places equally as well adapted for dairying purposes by reason of natural advantages as that owned by these more enterprising men. But the majority of agriculturalists prefer to follow in the old beaten paths and ruts of their forefathers rather than to follow the advanced methods such as may be seen in all other industries.

There is a wide and profitable field for the dairyman in the South. The market for good butter and cheese is far beyond the available supply. The health resorts and summer resorts, such as Asheville, N. C., and many others, are increasing in number and in patronage every year, and these demand the very best article of butter that can be obtained, and for a prime article will pay a good price.

The population of the cities and towns throughout the South will increase, and they will consume large quantities of butter and cheese if they can get a good article. The nearest point from which the South Atlantic and Gulf coast, as well as much of the interior region, can draw its dairy supplies is or should be the region to which I referred in the beginning of this paper. With the development of the vast mineral and timber wealth of the South in the near future there will come new population, new activities and new industries, which will demand increased dairy supplies, and it is none too early to begin now to meet the future demands, even if there were no present demand.

Steamers for the Chesapeake & Ohio Line.

The independent steamship line between Newport News and Liverpool which was projected some months ago will soon have their new steamers in service. The great enterprise of the Chesapeake & Ohio Railway in pushing forward the affairs of this steamship company will have its reward in the development of the mineral and timber region along its lines and the extension of the cattle-export business which they have heretofore handled with such success. The *Liverpool Journal of Commerce* describes the steamer Appomattox, the first of the several splendid ships that are being built on the Clyde for the Chesapeake & Ohio Steamship Co. This steamer, along with two others, is being built by Messrs. Furness, Withy & Co., Limited, of West Hartlepool, while Messrs. Alexander Stephens & Sons, on the Clyde, were entrusted with the building of three others. The first of the three building by the latter firm was launched recently, and was called the Rappahannock.

She is built of steel and largely in excess of Lloyd's rules for their highest, or 100 A 1 class. She is 370 feet long between perpendiculars, forty-four feet broad and thirty-one and a-half feet deep, and her carrying capacity is between 5000 and 6000 tons. Her accommodations for carrying cattle are superior to any yet adopted by any other line and provide for the carrying of about 760 head of cattle. The engines, which are also built by Messrs. Stephens, are of the triple-expansion type, with every modern improvement. The cylinders are of twenty-eight, forty-six and seventy-five diameter by fifty-four stroke, and they are supplied with steam at 165 pounds pressure.

There are spare rooms of a very comfortable kind for a limited number of first-class passengers and special quarters for the crew forward and for the cattlemen in the after part of the vessel. The vessel has been built throughout under the advice and personal supervision of Mr. George McFarlane, the owners' consulting engineer, and Captain Manley, their marine superintendent.

West Virginia Oil Wells.

Reports from the Fishing Creek district of West Virginia indicate that the supply of oil is very abundant, and that that section will rival Tyler county as an oil-producing district. What is known as the Fluharty Run well has begun flowing at the rate of nearly 2000 barrels per day. This well has only recently been drilled. Nine miles farther up the same stream another gusher has reached the oil supply and is throwing up a large quantity hourly.

Studying the Steel Question in Birmingham.

Some time ago the Commercial Club of Birmingham, Ala., appointed a committee to consider the various phases of the manufacture of steel in Birmingham, with a view to ascertaining the possibilities and probabilities of establishing such an industry. At the meeting of the club on Friday, August 11, this committee submitted its report, as follows:

"Your committee on iron and steel beg to submit the following report on steel, since it is the conviction of this committee that there can be no material improvement in iron interests here until a portion at least of the pig iron produced in this district is converted into steel. For the purposes of this report, therefore, the two interests will be regarded as identical, hence the question of the adaptability of our native ores for purposes of steel conversion has engaged the entire attention of your committee. As to the practicability of making steel from our pig iron, this is no longer an open question, for this has been done so repeatedly that there is no longer any possible room to doubt it, the only question being quality of the article produced and the cost, so as to reasonably hope for successful competition with the manufacturers of other sections. On this point we can state that a committee of well-known gentlemen, some of whom were experts, witnessed a run of steel at the old Henderson works in August, 1890, and a copy of their report is on file with the secretary of this club. From the tests made of the quality of the steel then produced, as well as others which have come into the possession of this committee, of steel more recently made by the Jefferson Steel Works, we have no hesitancy in pronouncing the article produced of a very superior quality and deemed fully equal to any made elsewhere.

"The cost as given by the committee was fixed at \$21.00 per ton, and while they regarded this low at that time they stated that under more favorable conditions a reduction of \$2.00 to \$3.00 a ton less than this could be counted on. With the price of iron very much lower than then, we are convinced that steel can now be made here at a cost not exceeding \$16.00 per ton. The present price of Bessemer steel at Pittsburg, Pa., is \$21.50 per ton, but it is to be borne in mind that the steel made here, and to which our ores are best adapted, is not Bessemer, but what is known as basic open-hearth steel. This is quoted at \$5.00 to \$7.00 per ton above Bessemer in all the leading markets of the country. Hence, it will be seen that our iron can be converted into steel of a superior quality and at a sufficient margin of profit to enable it to be sold in other markets in competition even with a cheaper article, while for our home markets competition would be impossible from any quarter of the world.

"To understand this better, we will state that there are four standard processes of steel-making, viz:

"1. Bessemer, which requires iron almost free from phosphorus.

"2. Basic Bessemer, iron high in phosphorus.

"3. Acid Bessemer, iron low in phosphorus, silicon and sulphur.

"4. Basic open hearth, iron low in silicon and sulphur.

"It is this latter process to which our ores are best adapted, and it is steel made by this process that is rapidly supplanting muck iron, being cheaper to produce and better adapted to all purposes for which that iron is used. The Little Belle furnace at Bessemer, Ala., has recently been producing pig iron low in sulphur and silicon, eminently adapted to the manufacture of basic open-hearth steel, as the following analysis recently made by Mr. J. H. Pratt, analytical chemist, of this city,

shows: Average of forty-four analyses—silicon, .635; sulphur, .651. The following is also by same chemist the average of eighteen analyses of basic open-hearth steel made from Birmingham pig iron: Phosphorus, .085 per cent.; sulphur, .042 per cent.; manganese, .382 per cent.; carbon, .098 per cent.

"From the above it is evident that there can be no longer any doubt as to the possible successful manufacture of steel from our native ores. This will require, of course, a properly-equipped plant of ample size, with all modern appliances, and managed by those who have experience in this branch of steel production. Under such conditions, backed by proper working capital, there can be no question of producing steel here successfully and profitably.

"With these facts before us, your committee would recommend that as soon as the present financial clouds show signs of breaking that the entire influence of this club be concentrated on the erection of a steel plant as one of the surest means of bringing a revival of business to this city and section. There will follow in the train of such an enterprise the speedy establishment here of rail mills, locomotive works, machine works, nail works, horseshoe works, wire works, cotton-tie works, tool works, hollow-ware works, bridge works, car-wheel works, carriage and buggy-spring works, cutlery works, agricultural works, and, in fact, all enterprises that use iron and steel for manufacturing purposes. Respectfully submitted,

"W. H. GRAVES, Chairman.

"N. F. THOMPSON, Secretary."

Mallory Steamers to Touch at Biscayne Bay.

A press dispatch from Jacksonville, Fla., says: "In an interview with Ely Spencer, of Biscayne Bay, he stated that a month ago the Mallory Steamship Co. had soundings made at the entrance of Biscayne bay, and on the 2d inst. one of the ships dropped a boat with a crew to make soundings at Fowley Rocks, where the light-house stands. These rocks are at the entrance of the bay and are protected from the ocean by a chain of reefs. It is said that twenty-three feet were found and that the company will build a wharf at the point named and have steamers plying between New York and Key West touch there. It is not unlikely that in the course of a year or two this will be the Florida terminal of a new route to Cuba.

The Florida Sponge Crop a Failure.

Messrs. Loudon & Hill, who are foremost in the sponge trade in St. Andrews, Fla., have received news that the crop of sponges is an entire failure. This will entail a loss of \$250,000, most of which will fall on the operators, although the sponge fishermen will also suffer. Mr. Loudon stated that the failure was due to the heavy gales along the Florida coast, making the waters muddy and preventing the fishermen from securing their usual harvest. The annual crop from Florida's various fishing grounds is valued at between \$400,000 and \$500,000, and is shipped mostly to the United States, only a limited quantity going to England and Germany.

Important Levee Work.

The work on Louisiana levees, as outlined by the State board of engineers, for the coming year will entail an expenditure of nearly \$60,000. A number of levees will be reconstructed and new levees built at several points. More or less work will be done in Caddo, Baton Rouge, Lafourche, Jefferson and Lake Borgne parishes, and the estimates call for the removal of nearly 300,000 cubic yards of earth. Bids will be opened August 23 at the State engineers' office for the work.

The Prosperous South.

[Cincinnati Tribune.]

It would be hard to assign an acceptable reason for the South's present prosperity. While the North, West and East have been troubled by a restless condition in financial circles, the New South seems solvent and quiet. Possibly their bank deposits are not made up as largely from a class of small depositors as are those in the other sections of our country. But the cause lies deeper. Changes in many directions have placed the South on a sure and stable foundation. But a few years ago the exportation of fruits and vegetables from this favored land was no element of trade. Now, with rapid train service, this trade probably aggregates \$50,000,000 a year, and is rapidly growing. New and large orchards of small fruits will be adding from year to year to this total. While cotton is low in price, the production has nearly doubled in ten years, and now the United States, or the South, produces two-thirds of the cotton used in the world's manufacture.

In permanent value, however, the development of manufacturing establishments in new lines has been a much more important factor than the products of the soil. The cotton that blossoms and blooms in the sun is now being turned into thread and cloth within sight of the fields wherein it grew. Coal and iron are so largely produced that the day may not be far distant when Pennsylvania's crown of iron will be placed on Alabama's brow. At that Massachusetts, too, will be compelled to give up her pre-eminence in the making of cotton goods and congratulate Georgia upon her success in the race.

The production of corn has increased largely, and naturally therewith more cattle and hogs. In short, all the possibilities of this section of our country are being developed. No man in the North begrudges the South one iota of her prosperity. Indirectly all enjoy the usufruct. The prosperity of one part is the prosperity of all. It is but the beginning of greater things. Not a generation ago it was a desolate land. It required a person with a stout heart to even hope. But the change came, and came with a rush. It has not stopped, nor will it stop, so long as the natural advantages of the South exist and need development.

Three Large Bridges.

The bridges about to be built over the Tennessee and Arkansas rivers will be of unusual interest to engineers and others on account of their size. The Tennessee bridge will be 2600 feet long and will cost about \$350,000. It will be constructed of the best material. No contract for it has as yet been given out. F. J. Nicholl, chief engineer of the Chattanooga Western Railroad, is in charge of the matter.

The Arkansas bridge will contain six spans, the total length being 1680½ feet. Starting from the southern extremity and going north, it will consist of a masonry wall 100 feet long, with retaining walls on the outside, 294 feet of iron trestle work, one cantilever span of 180 feet, a channel span of 360 feet, two deck spans 246 feet and deck span of 184½ feet, one deck span of eighty-four feet, 189 feet of iron trestle work and masonry wall, with side retaining walls, ending an earth-fill forty-three feet long. Bids for its construction will be received up to September 4 by Hon. W. A. Compton, county judge at Little Rock. H. G. Fleming is engineer in charge. Both bridges have been referred to in previous issues of the MANUFACTURERS' RECORD.

The City & Suburban Electric Railway Co., it is understood, contemplates building an iron viaduct for electric cars across Jones's falls gorge in the northern suburb of Baltimore. This structure is to be about 1100 feet long. Bids have been received.

Europe Wants Food.

The demand for breadstuffs from Europe for the next year will be one of the most extensive in its history. Several causes have combined to greatly reduce the crops in all of the food-producing countries of the Continent, while in Great Britain there is a falling off not only in the grain acreage, but in other products as well. Reports of a prospective food famine were received from Europe several months ago, but they were attributed to speculators and were generally disbelieved. Later advices from the most reliable sources, however, verify these reports and show that the state of affairs was underestimated rather than magnified.

The *Financial Chronicle* has been investigating the condition of European crops through its own correspondents, and gives the following summary:

"The long-continued drought in England and upon the Continent is exciting the gravest apprehensions. Scotland and Ireland have not suffered much, but in England, France, Germany, Holland and Belgium the state of things is very serious. Respecting Russia, as usual there are conflicting reports. There has been an improvement of late both in Austria-Hungary and Roumania. Throughout western Europe generally the grain crops are very bad. Hay is almost a complete failure, and grass is in a very bad way. It is feared, too, that the root crops will be destroyed. It is reported that in France, Germany and Holland oats and rye are being cut to feed cattle. The smaller agriculturalists are selling their beasts for whatever they will fetch, and there are grave fears of a water famine in some districts. There has been some welcome rain, but as yet nothing like enough materially to improve the situation. The general belief now is that the imports of food both for men and for animals will be on an enormous scale, and that consequently there will be very large shipments of gold, especially to the United States, later in the year."

The hay crop of England and Wales is about 8,000,000 tons when an average yield is secured. Last year the production fell to 5,558,000 tons, but the importations were comparatively small, being only 61,000 tons. This year the crop is estimated at figures ranging from 2,000,000 to 4,000,000 tons. It is clear that importations will be far short of the difference between the production this season and what is regarded as an average crop. The production in the United States will probably be fully 50,000,000 tons. The MANUFACTURERS' RECORD has already noted the fact that a much larger quantity of wheat has been exported during the last month than for the same period last year, while hay shipments by steamer have begun at New York and Baltimore.

Large Contract for North Carolina Stone.

The Southern Red & Brownstone Co., of Sanford, N. C., have secured the contract for furnishing the stone for the building of the Warden Manufacturing Co., of Philadelphia. This will necessitate running the quarry day and night and the employment of a large additional force of workmen, besides skilled workmen from Philadelphia. They are also competing for the contract for furnishing the stone for another Philadelphia building. The contract is for \$2,000,000, and \$200,000 for stone trimmings alone.

RIVERMONT, a suburb of Lynchburg, Va., seems to be a very desirable spot for residences. At a recent auction sale held in the city lots to the value of \$6904 were sold through the real estate firms of Tyree & Wilkins, Armistead & Stepton and Otey, Walker & Bowyer.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department, on pages 52 and 53.]

The Cheney Adjustable and Flexible Loom Reed.

Fifty thousand dollars in cash is a big price to pay for any invention. Add to that sum \$100,000 in stock of the new company, and the improvement must be an important one to command such a price. Yet it is understood that these were the figures paid to Joseph W. Cheney for his improvement in looms. The price is all the more significant of the value of the invention when it is known that the purchasers, who comprise the controlling interest in the Cheney Flexible Loom Reed Co., were such careful, conservative and practical cotton-mill men as James W. Cumnock, agent of the Dwight Manufacturing Co. at Chicopee, Mass.; Charles J. Goodwin, president of the Indian Orchard Co.; Herbert L. Pratt, agent of the Bates Manufacturing Co., of Lewiston, Me.; Joseph M. Dunham, superintendent of the Merrick Thread Co., and John L. McKemie, foreman of the same concern, and Benjamin F. Nichols, late manager of the Metallic Drawing Roll Co., to say nothing of such conservative capitalists as Emerson Gaylord, of Chicopee, Mass., and John Olmsted, of Springfield. These men did not invest except after extended practical tests of the Cheney device and an elaborate investigation of the patent.

It appeared that the Cheney adjustable and flexible loom reed applied to 900 looms with the same speed, same work and same help as before gave an average increase in production of 16½ per cent. as the result of a four months' test. This was on a wide variety of goods at the Palmer Mills, Three Rivers, Mass. In one test at the Dwight Manufacturing Co. the increased production on a 108-inch reed went as high as 20 per cent. In addition to this extraordinary result the following objects are attained by this device:

It will weave over 90 per cent. more spooler's knots or any other kind of a knot or any tender place in the yarn, such as may be caused by piecing up on spinning, etc., than the old way. Furthermore, we can show you work now running where it is utterly impossible to weave knots in of any kind the old way where this invention weaves practically all.

It does not need as strong yarn nor such heavy sizing as the old way, but will weave tender yarn and slack-sized warps where it is utterly impossible to weave them without it.

It makes more first quality and better looking cloth.

It increases weavers' pay, and they can run more looms.

It will make cloth heavier by not chafing off the short fibre and starch while being woven in.

It will make brighter looking cloth on colored goods for the reason that about all colored goods are dyed in the yarn, the coloring matter being mostly on the outside. There being less friction on the yarn, the fibre is not roughened up so much with our invention, therefore makes brighter looking cloth.

It also takes less power to run a loom, there being less friction on the yarn through the reed, and having an adjustment which can adjust the reed so perfectly, making a perfect track for the shuttle, which is driven across easier, also making a great saving of the shuttle.

The essential principles of this device are: First, the flexibility of the reed, by reason of which the yarn will pass through readily and without injury, even though it be knotted, uneven, highly dyed or of

imperfect quality. Second, the adjustment of the reed, whereby it is made to line with the boxes, thus enabling the reed to be kept in an absolutely true position. The above described advantages from this device are due mainly to the patented adjustment, without which it is impossible to secure the results noted. Looms have been made before with the reed dropped below the race board, but have not proved satisfactory or practical on a large scale until the invention of the Cheney adjustment.

A great point in favor of this device is that it can be readily applied by any loom fixer to old looms now in operation, while its application to new looms need not add materially to their expense. It requires the use of a wide or deep reed, so that the present narrow reed would have to be discarded on old looms, but aside from this the cost of labor and material for applying the device will be but a dollar or so per loom.

With a view to its immediate and universal adoption, the company has wisely established a merely nominal royalty for the use of this device, ranging from \$1.00 to \$2.00 and upwards for the loom. At these prices the device will pay for itself in a very few weeks' operation, and no mill can afford to run looms without it.

The Cheney patents were taken out in June, and the Cheney Flexible Loom Reed Co. has since organized with a capital of \$300,000 and these officers: President, Charles J. Goodwin; vice-president, H. L. Pratt; treasurer, Herbert Myrick; agent, Joseph W. Cheney. The foregoing, with James W. Cumnock, Benjamin F. Nickols and Henry A. Chapin (the well known patent attorney) constitute the board of directors. The company's office is with the Metallic Drawing Roll Co. at Indian Orchard, Mass. The two concerns are distinct corporations, but several of the same gentlemen are interested in both, and Mr. Myrick has the management of both enterprises.

A Cotton Mill for Florence, S. C.

It is said that a cotton factory will soon be established in Florence, S. C. Mr. H. L. Odiorne, president of the Florence Cotton Mill Co., is busily engaged making a canvass of the business men of that city in the interest of a cotton mill. It is proposed that if the citizens of Florence subscribe their names to 1000 shares of stock at \$100 per share a certain Northern capitalist will immediately subscribe \$150,000, making a grand total of \$250,000. A great many solid business men have already taken shares, and it is safe to predict that Florence will soon see a mill erected which will do credit to the city.

Claims for Cotton.

W. S. Monteith, a Columbia (S. C.) lawyer, is in Washington. He intends to have introduced in Congress about forty-five bills for the relief of citizens of South Carolina and Georgia who lost cotton by seizure and sale during and shortly after the war, under the captured and abandoned act. The aggregate amount is about \$1,500,000. An effort is to be made to get these claims referred under the Tucker act by Congress to the Court of Claims. It appears that there are over \$10,000,000 in the treasury, the proceeds of these sales remaining undistributed, of which the amount above stated belongs to citizens of South Carolina and Georgia.

Cotton Market.

NEW ORLEANS, LA., August 14.

Editor Manufacturers' Record:

The only new features since ours of 7th inst. was the publication of the bureau report under date of August 10. While this was admittedly bad, still it was rather better than was expected, and as the rains

which have fallen since it was compiled have to some extent repaired the damage complained of, it exerted no influence whatsoever. The crop movement thus far fails to confirm late crop theories. With Texas, Alabama, Mississippi and Louisiana all furnishing new bales at earlier dates than last year, and with the receipts at Galveston this month about the same as for the corresponding period last season, and our port showing 271 bales, against 141, it is difficult to reconcile these cold facts with late crop theories. The Augusta Exchange, under date of 13th inst., publishes replies from 120 correspondents giving condition in the State of Georgia. Ninety-nine of these report the crop more favorable than last year; nineteen not so good. In reply to the question whether or not with good seasons from now on the yield would exceed that of last year eighty-seven state that the yield will greatly exceed that of last year, twelve that it will equal it and twenty that it will fall off 20 to 50 per cent. The consensus of opinion seems to indicate a very flattering crop condition. Our North Carolina correspondent, writing from Charlotte under date of 12th inst., reports the prospects to be very flattering. In some places the plant is rather undersized, but everywhere is heavily fruited. North Texas reports prospects greatly improved, and states that with the recent rain the outlook for a good yield is promising. In the Indian Territory prospects are most flattering, and crops have never looked better. The tendency seems to be to a lower level of prices, for, with a crop only just commenced to move, what are we to expect when the receipts assume larger proportions and the demand for money becomes more active?

The world's visible supply of American on Saturday last was 1,969,000 bales, against 2,031,000 bales the Saturday previous and 2,313,000 bales last year. Of this Liverpool had on hand and afloat 1,026,000 bales of American, against 1,230,000 bales last year. American ports had 277,000 bales, against 418,000 bales last year. American interior stocks were 85,000 bales, against 148,000 bales last year, and Continental stocks were 437,000 bales, against 490,000 bales last year.

ATWOOD VIOLETT & CO.

CLOSING PRICES OF COTTON FUTURES AUG. 16.

Months.	New Orleans.	New York.	Liverpool.
August	6.84	7.22	4 9-64
September	6.53	7.26	4 10-64
October	6.94	7.34	4 11-64
November	7.04	7.43	4 12-64
December	7.14	7.52	4 13-64
January	7.28	7.60	4 15-64
February	7.28	7.68	4 16-64
March	7.43	7.76	4 17-64
April
Tone of market.	Quiet.	Steady.	Firm.

CLOSING PRICES OF SPOT COTTON AUG. 16.

Grade.	New Orleans.	New York.	Liverpool.
Middling	7 7-16	7½	4 5-16
Low middling	7 3-16	7 1-16	4 3-16
Good ordinary	6¾	6¾	4 1-16
Tone of market	Quiet.	Easy.	Nominal.

Southern Textile Notes.

THE new cotton mills of the Columbia Mills Co., Columbia, S. C., will be a model in every respect if brains, money and enterprise can accomplish this. These will be the first in the South to be equipped throughout with the patent metallic drawing rolls, which is to be put not only on the railway heads and drawing rolls, but also on the slubbers and roving frames of all dimensions. Many other Southern mills have adopted metallic rolls on their railway and drawing, but the Columbia mills are the first of our Southern mills to put this system through to the spinning. The Metallic Drawing Roll Co., Indian Orchard, Mass., sole owners of the patent

and manufacturers of these rolls, informs us that the metallic roll has come into very general use among the largest and most successful Northern mills and also in foreign countries. The metallic roll renders our Southern mills independent of climatic and other influences which make it impossible to do good work with leather-covered rolls. Indeed, the metallic roll was fiercely opposed at the North when it was first introduced, because Northern manufacturers saw at once that it would render the Southern mills equal competitors in quality in very many lines of goods.

THE Camperdown Cotton Mill at Greenville, S. C., has decided to operate only three days each week.

CONTRACT for erecting operatives' houses for the new Cherry Cotton Mills at Florence, Ala., has been let to J. W. Nichols. The machinery for the plant will shortly be ready to place, and the mill will likely go into operation by October 1. Over 200 hands will be employed.

THE Cannon Manufacturing Co., of Concord, N. C., held its semi-annual meeting of stockholders last week, and an excellent showing was made for the past six months' business. The plant turned out 2,145,665 yards of sheeting during that time.

THE Luna Cotton Mills, at Fort Mill, S. C., are now running night and day. A double force of hands is required and there are a number of operatives seeking employment. At the Fort Mill Manufacturing Co.'s weaving mill 500 looms are running on full time. Gingham, plaids and white goods are being made.

GROUND was broken on the 7th inst. for the extension of the Newberry Cotton Mills at Newberry, S. C., which will more than double their capacity when the addition is completed.

THE cotton mills at Spartanburg, S. C., are all running on full time without any signs of shutting down. Shafting has been put in at Pacolet Mill No. 2, and experts are now arranging the machinery in place.

ON account of the generally depressed condition of business affairs the directors of the Mississippi Mills at Wesson, Miss., closed down the greater portion of its machinery last week. Over 800 hands will be thrown out of employment.

MESSRS. A. C. SCHERR & BRO., of Keyser, W. Va., have about completed their new woolen mill at that place and will be ready for operations in another week. Their plant is a two-set mill.

THE Nashville Woolen Mill at Nashville, Tenn., closed down temporarily last Saturday after paying off the 120 hands employed. Lack of business and general slowness in trade is the cause. The mill will open for a week at a time until the business situation improves.

THERE is considerable improvement in the cotton-milling circles of North Carolina, and during the week most encouraging reports have been received. The Vance Cotton Mills at Salisbury, the King's Mountain Cotton Mills at King's Mountain and several others which have been temporarily shut down on account of the general depression in trade, will, it is said, resume work on full time this week.

WORK on the cotton mills at Hartwell, Ga., is about to commence, and material will be delivered on the factory ground early next week. Mr. Charles H. Wilcox, of Atlanta, who represents the Atherton Machine Co., of Lowell, Mass.; the Harrison Safety Boiler Works, Philadelphia, and the Lane & Bodley Co., Cincinnati, Ohio, has been awarded the contract to furnish the entire machinery for the cotton mill. Major A. Randall, an old and experienced architect and engineer, is furnishing the plans and specifications.

PHOSPHATES.

Shipments of Carolina Phosphates.

From recent figures just presented to the public in relation to the phosphate industry of South Carolina, the outlook is highly encouraging for a decided increase in production for the fiscal year ending August 31, 1893. At points of production throughout the State there has been a rapid development during the current year; prices have been generally good, and miners have realized fair profits. Last year the entire shipments from the State's territory amounted to 156,095.61 tons. The aggregate shipments to the 1st of July are placed at 203,869 tons. The State treasurer's phosphate year began two months later than the inspector's, and the total for these eight months is 161,765 tons. Inspector Jones reports the shipments of phosphate from Coosaw and other mines for ten months ending June 30, 1893, as follows:

Month.	Foreign.	Coastwise.	Beaufort.	Charleston.	Total.
September....	8,669	2,962	771	777	13,179
October.....	5,153	6,480	492	484	12,609
November....	6,885	3,542	1,495	478	12,400
December....	9,864	2,791	438	501	13,594
January.....	17,001	4,242	911	678	23,432
February....	23,348	5,854	1,185	815	31,202
March.....	20,211	3,522	984	1,347	26,064
April.....	8,138	2,141	413	1,773	12,465
May.....	21,184	6,026	939	438	28,587
June.....	23,957	5,028	1,332	30,317
Total.....	145,040	42,588	7,648	8,613	203,869

Condition of Carolina Phosphate Mines.

[From a Special Correspondent.]

CHARLESTON, S. C., August 9.

The situation among the phosphate mines is as follows: Pinckney's mines and the Charleston Mining & Manufacturing Co. are both in operation and have light stocks on hand. The Bolton mines are running, have good stock on hand and are holding stiff on prices. Gregg's Horse-shoe mines are closed, but Boyle rock, 52 per cent. grade, is being mined.

Among the river mines the Coosaw Company is at work and has a good stock on hand. The output of this company should reach 120,000 tons this year. Brotherhood is mining, has good stock on hand and ought to reach an output of 40,000 tons. The Farmers' Mining Co. is also at work and has a fair stock on hand. The following mines are closed at this writing: Horse-shoe, Archdale, Rose, Drayton, Mead, Wando, Liberty Hall, Latham & Williams, Campbell & Hertz and Dottener.

The local and foreign trade is dull and but small transactions are reported. Domestic buyers are holding off under the present stringency. Owing to the small stock of land rock on hand and the few companies at work, there are anticipations of an early advance in land rock. All the shallow mining in Carolina is about exhausted and miners must go deeper, hence an advance in the cost of production.

Fertilizer manufacturers are virtually doing nothing, and, owing to the financial uncertainty, are buying but little material, although a good trade is anticipated, as crops are reported in good condition. Blood is freely offered at \$2.20 and tankage, 9 and 20, at \$25.00 c. i. f. Charleston, with but few takers.

Polk County Phosphate Operations.

[From a Special Correspondent.]

TAMPA, FLA., August 14.

Mining operations in Polk county are at present rather quiet. The following land phosphate companies are at present in active operation: The Bone Valley Phosphate Co., turning out about 100 tons daily, and the Florida Phosphate Co., with the same daily output, have their production entirely sold up for 1893. The Pharr Phosphate Co., producing fifty to seventy-five tons daily, and the Fort Meade Phosphate

Co., with an output of about fifty tons per day, have their production for 1893 nearly all sold. The following companies are closed down for repairs and further improvements: Terracia Phosphate Co., Land Pebble Phosphate Co., Massachusetts Phosphate Co., National Peace River Phosphate Co. and Alafia Phosphate Co.

Among the new companies whose plants are well under way and will probably be producing phosphate during the latter half of this year are the Lake Hancock Phosphate Co., Foote Commercial Co. and the Belle Phosphate Co. These companies have erected plants of a capacity varying from 100 to 125 tons per day, all with the latest improvements, and the outlook for their success seems to be assured.

The stock of phosphate at present available for market is exceedingly contracted, and we know of but two parcels at present remaining unsold, one of 1000 and the other of 2000 tons. From general indications it is fair to presume that the above lots will not be long on the market, as foreign resident buyers are taking all available and marketable stock on hand and offering to contract at \$5.00 alongside vessel for 1894. In view of these facts we may conclude that for the present, at any rate, the market will remain steady unless the stock shall be materially increased by the resumption of those companies now putting in new appliances and the starting up and opening of new mines. Miners are becoming daily more familiar with their deposits and the difficulties they have had to contend with, and are in consequence turning out a better and higher grade of goods than heretofore.

The Palmetto Phosphate Co. has been recently organized by the following gentlemen: W. Goodwin, F. Swift, J. H. Cottman, Robert Rasin, Wissner and Mortimer. This company has already ordered the machinery for its plant and anticipates breaking ground at an early date. Dr. C. G. Memminger has taken the management of the company, and will give up his laboratory business in Bartow on that account.

The British steamship Serapis sailed for Hamburg on the 13th inst. with a cargo of 1695 tons of pebble phosphate from the Bone Valley Phosphate Co. The Serapis will call at Baltimore, where she will take on 400 tons of hay for Havre, France.

The German steamship Markomania arrived at Port Tampa (Fla.) quarantine station on the 9th inst. As she is from a West Indian port, she will have to stand the five days' quarantine, after which she will come into port for a cargo of phosphate.

The Plant Investment Co. has completed the dredging of the two phosphate-loading slips at Port Tampa, Fla. They now have a uniform depth of twenty-two and a-half feet at low water.

Phosphate Markets.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, August 17.

The phosphate market is quiet and there is very little movement in any direction. Manufacturers are purchasing but little at the moment, although several sales of large lots are reported sold for future delivery. Advices from Europe show no improvement and the demand is not by any means of a pronounced character. The quotations in the local market are unchanged. South Carolina rock \$4.50 to \$4.75 f. o. b. Charleston; Florida 60 per cent. river pebble is offered at \$4.00 f. o. b. Tampa, and Charlotte Harbor land pebble \$4.75 to \$5.00 for 65 and 70 per cent., price rising with guarantee. The bark Onaway arrived this week from Charlotte Harbor, Fla., with 1300 tons phosphate, and the Fanny Reiche, with 650 tons from Charleston, S. C. There are no charters reported, except the schooner Fannie Brown to load at Beaufort for Richmond, Va.

FERTILIZER INGREDIENTS.

The tone of the market has been quiet and irregular during the week, with values more or less nominal in the absence of any prompt demand. Prices for ammoniates show but little change. We quote blood at 1.75 f. o. b.; tankage, 7 per cent. ammonia and 30 per cent. bone, is quoted \$22.00 to \$23.00, and 9 per cent. ammonia and 20 per cent. bone 2.00 and 10; fish 2.00 sales; kainit \$11.50 to \$12.00 per ton of 2000 pounds in bags; nitrate of soda is in better demand at one and seven eighths cents per pound, with receipts less liberal.

CHARLESTON, S. C., August 14.

The week under review has been moderately active in phosphate matters, and there has been considerable doing at points of production. A steady output is going forward, and it is expected that the fiscal year ending August 31 will show a large increase over last year. Advices from Europe report the demand a shade better, but prices are not improved. The local market closed steady on Saturday last with crude rock \$3.75 to \$4.00 f. o. b.; hot-air dried \$4.75 f. o. b., and ground rock \$7.50 f. o. b. in bags. The shipments of phosphate rock reported for the week are as follows: For Baltimore, bark B. Webster, 800 tons acid phosphate; schooner Emma L. Cottingham, 700 tons; schooner Fannie Reiche, 650 tons, and schooner Vanlear Black, 917 tons. The brig Jennie Hurlburt cleared with 730 tons for Philadelphia. The demand for handy-sized vessels for the phosphate trade is good, but tonnage scarce at rates current today. The total exports of crude rock from Charleston since September 1, 1892, aggregate 105,236 tons, and of ground 3641 tons, all coastwise; shipments foreign 175 tons. For 1891-92 the exports were 115,269 tons, and of ground 5006 tons; shipments foreign 2692 tons.

Phosphate and Fertilizer Notes.

THE auditor at Montgomery, Ala., is getting ready to issue the fertilizer tags under the law passed by the last general assembly. He has let the contract for furnishing the tags to Joel White and Woodruff at ninety-three cents per thousand, which is thirty-two cents less than last year.

THE South Florida Phosphate Co., of Liverpool, went into the hands of a receiver last week. J. O. Carr, of Fort Ogden, was appointed.

Providing Money to Move Georgia Cotton.

ATLANTA, GA., August 14.

At a meeting of the Atlanta Chamber of Commerce the prominent business men of the city had under consideration a plan by which it is proposed to move the crop of cotton of this immediate section and to call upon the associated banks of Atlanta to assist in the proposed plan. The meeting was called to order by President Stewart Woodson, of the Chamber of Commerce. In stating the object of the meeting the president said: "I presume you are all aware of the object of this meeting. It is to discuss and determine the best and most feasible means for providing the necessary funds for handling the cotton crop of this immediate section. It is now about ready to be marketed. Owing to the financial distrust existing over the whole country, we cannot depend upon our usual sources of supply for the large amount of currency necessary for the proper handling of this vast volume of business. Atlanta has always been foremost in matters looking to her continual commercial progress, and I now think we should request the associated banks of this city to provide for issuing clearing-house certificates that there may be ample funds in hand not only to handle the unusual amount of cotton coming to our market, but to pro-

vide for an increased business that will be sure to come if we place ourselves in position to handle it carefully." Mr. J. G. Oglesby, president of the Commercial Club, made an able speech, closing by a motion for the appointment of a committee of five to draw up resolutions suggesting to the banks of the city some plan and asking their co-operation in the event of an emergency in moving the cotton crop. The motion was generally seconded, and the president appointed Messrs. J. G. Oglesby, E. P. Chamberlin, M. C. Kiser, Walker P. Inman and Joel Hurt on the committee. The committee retired to make their report, and while waiting for their return Colonel Adair spoke on the situation and endorsed the plan to ask the banks to issue clearing-house certificates when they deemed it necessary. The committee on resolutions then made their report, which was as follows:

Whereas, In view of the importance of providing ample funds for handling the cotton crop tributary to this market, and owing to the present financial condition, the money centres heretofore furnishing the required currency cannot be relied on for the usual assistance; be it

Resolved, That the associated banks of Atlanta be requested to issue clearing-house certificates in such amounts as may be found necessary to provide ample funds for handling this business.

The sentiment of the meeting was very general for the plan suggested by the resolution. Major M. C. Kiser moved that the resolution be adopted by a rising vote, and this motion was carried. The vote was almost unanimous.

Pennsylvania and Maryland Steel Companies.

The directors of the Pennsylvania Steel Co. have submitted a proposition to the creditors of the Pennsylvania and Maryland corporations, which is now being considered. In order to provide for floating indebtedness the companies propose to issue \$5,000,000 of their consolidated joint general mortgage bonds, secured by mortgages on their respective plants. The remainder of the indebtedness is to be provided for out of accounts due the companies and their net earnings as they may be collected. The bonds to be issued have been conditionally subscribed for by stockholders of the Pennsylvania Steel Co. to the amount of \$1,338,000, and this sum will be payable by the subscribers on or before April 15, 1894, if the extension of indebtedness asked by the company is granted. The following plan of payment is proposed: April 15, 1894, 15 per cent. of the indebtedness in cash and 15 per cent. in the consolidated joint general mortgage bonds at 85 per cent. of their par value; 10 per cent. in cash October 1, 1894, and April 1 and October 1, 1895, 1896 and 1897. If the plan is accepted the companies' affairs will be taken out of the courts and the receivers dispensed with.

The stockholders of the companies have decided to approve an issue of \$9,000,000 in consolidated 6 per cent. mortgage bonds to cover the entire floating and funded debt of the companies. It is a part of this issue which the creditors are to receive in case a settlement is effected.

White Sulphur Springs Not Sold.

A report has been circulated, in Southern papers especially, during the last fortnight that the celebrated White Sulphur Springs property had been sold to New York capitalists, and among them Mr. C. P. Huntington. The price quoted was \$800,000. THE MANUFACTURERS' RECORD has made inquiries relative to the sale, and is advised on the best authority that the report is without foundation.

WE have an inquiry for a good working silver mine, not in Colorado, and should be pleased to hear from the owners of any such property. Address R., care editor MANUFACTURERS' RECORD.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department, on page 54.]

Official Railway Changes.

J. F. O'Brien, superintendent of the Louisville Southern, resigned. Superintendent Murphy, of the Cincinnati Southern, will assume the duties of both offices.

General Agent Anderson, of the Georgia Central, appointed superintendent of the Port Royal & Western Carolina.

C. H. Phinizy elected president, and E. L. Tyler, general manager, of the Atlanta & West Point road.

Louisville & Nashville Stock.

Out of 528,000 shares of listed Louisville & Nashville stock about 75,000 shares are held in this country. The balance is in the hands of foreign investors. It is an active stock in Wall street, but to show how little of it, even in these times of forced liquidation, is put on the market for speculation, the total sales of Louisville & Nashville on Saturday, August 12, were but 450 shares; August 11 they were 2660, and August 10 5617 shares, averaging 2909 shares daily out of a total of 528,000 shares. The stock is said to be "valued" by its quotations from such sales as these.

West Virginia Central's Earnings.

The statement of the West Virginia Central & Pittsburgh for the fiscal year ended June 30, 1893, shows gross earnings of \$1,163,985.15, against \$1,113,767.39 for the last fiscal year, increase \$50,217.76; expenses \$743,504.59, against \$726,145.01, increase \$17,359.49; net earnings \$420,480.65, against \$387,622.38, increase \$32,858.27; deductions from income, including interest on funded debt and rental of leased road, \$282,647.48, against \$246,358.55, increase \$36,288.93; net income \$137,833.17, against \$141,263.83, decrease \$3,430.66. A large amount was spent during the year in building extensions.

Testing the South Carolina Liquor Rate.

The power of the South Carolina railway commission is being tested by the suit brought by the Richmond & Danville to restrain the commission from enforcing the rate it recently made on the transportation of liquors in glass cases. At the hearing before Judge Simonton, of the United States district court at Greenville, it was argued that the commissioners increased the rate for the benefit of the State dispensary in order to prevent more effectually sales from outsiders. It is claimed that the action of the commissioners is in violation of the fourteenth amendment of the constitution. The court has reserved its decision.

Cut the President's Salary Also.

There are different ways of reducing railway expenses. One is to discharge employees; another is to reduce the working time in shops and offices, and another is to make a reduction in salaries all around. It is generally admitted that the latter course, while serious in its effect, is usually the fairest to pursue, for if the reduction is adjusted properly no partiality is shown, and all bear it alike. When shops are shut down or train crews laid off those at work receive their salaries and the idle ones are the sufferers. The Louisville & Nashville has adopted the policy of making a general reduction in salaries in common with several other large systems. President Smith has issued an order that all salaries will be reduced from 10 to 20 per cent. after September 1, according to the amount received. The term "all salaries" meant the president's also. Mr. Smith, it is stated, receives \$25,000 a year. The 20 per cent.

reduction takes \$5000 off this amount, but it is done by Mr. Smith's direction. As a result the employees have generally accepted the cut with few murmurs. It is distributed impartially among the 17,000 of them, from the president down to the section hand.

Baltimore & Ohio Changes.

The Baltimore & Ohio management is planning for next year's business and arranging its divisions so as to handle freight and passenger business to the best possible advantage. The consolidation of the Ohio & Mississippi and the Baltimore & Ohio Southwestern into one corporation will be effected about November 1. This determination was reached at a meeting of the officers of the two companies and the Baltimore & Ohio held recently in Cincinnati. It has been the intention of the Baltimore & Ohio officials to consolidate these roads into one line ever since the control of the Ohio & Mississippi was secured through the aid of the English stockholders. E. R. Bacon, now president of the Baltimore & Ohio Southwestern, will probably be at the head of the consolidated line, as he is favored by the English shareholders.

The Fairmont, Morgantown & Pittsburg management has become more closely identified with the Baltimore & Ohio by the election of Mr. Thomas M. King, vice-president of the latter, as its president. This is the line nearly completed which penetrates the West Virginia coal and lumber regions. It will be one of the most valuable feeders of the Baltimore & Ohio as soon as it is equipped for business.

New Knoxville-Nashville Route.

The indications are that the Nashville & Knoxville will be extended to Harriman, Tenn., from Standing Stone, which is fifty-four miles. It is stated that the Crawford family, of Terre Haute, Ind., and St. Louis, Mo., have become interested with Jere Baxter, of Nashville, and all the money necessary to build the road will be furnished. The people of Harriman have offered \$50,000 to Mr. Baxter to construct the line to that city and the offer will probably be accepted. To complete a new line between Nashville and Knoxville it will be necessary to build twenty-nine miles from Lebanon, the present terminus of the Nashville & Knoxville, to Nashville, and fifty-four miles from Standing Stone to Harriman. The last section is by far the most difficult, but Mr. Baxter states that surveys have proved that it is possible. The work on this portion, as referred to in previous issues of the MANUFACTURERS' RECORD, has been progressing for some time. Knoxville is to be reached from Harriman over the Knoxville & Ohio and Walden's Ridge roads. It is estimated that this line will be forty-two miles shorter than via Chattanooga, the present route. For many years the project of shortening the distance between Knoxville and Nashville has been considered, but heretofore little has been accomplished, owing to the steep grades encountered. Mr. Baxter is known as a man of ability and energy, and his connection with the enterprise inspires much confidence in its success.

Developing Southern Maryland.

The recent reorganization of the Baltimore & Drum Point Railway Co. and the announcement that the Washington & Potomac line may be soon completed has attracted considerable attention to southern Maryland, which these roads are to traverse. The first-mentioned road, as already stated, has been surveyed and partly graded from Baltimore to Drum Point, at the mouth of the Patuxent river, through parts of Anne Arundel and Calvert counties. The county has no railway facilities at present, the outlet to market being by means of the Weems line of

steamers to Baltimore and by sailing vessels. The harbor at Drum Point is remarkable for its size and the depth of water near shore. Government engineers who have made soundings say that it is not only one of the best harbors in the country, but one of the finest in the world. At many points its depth is fully fifty feet, which makes it specially desirable as an anchorage for deep-draft vessels, such as coal and grain carriers. This railroad, which, it is announced, is to be built to Millersville, on the Annapolis, Baltimore & Washington, which is a branch of the Baltimore & Potomac, would prove a valuable feeder for the latter by which truck, fruit and other products could be hauled to the Washington market, while by the erection of coal chutes and a grain elevator a large export business could be transacted at the point.

The fact that several well-known railway men who have capital are interested in the construction of the road adds proof to the statement that it will surely be in operation within the next year. Besides J. H. McCreery, of Washington, who heads the syndicate which has contracted to build it, John E. Thropp, a large manufacturer of Trenton, N. J., is interested in the land at its terminus. The Patuxent Land & Improvement Co., of Trenton, has mapped out a town which is called Rousby-on-the-Patuxent. Artesian wells have been bored for a water supply, and efforts are being made to induce manufacturers to locate at this point. A steam plant for brick-making is already established at Rousby, which turns out about 30,000 bricks per day. It is projected also to make Rousby a summer resort.

The Washington & Potomac, which is now built and in operation from Brandywine to Mechanicsville, Md., is intended to extend to Point Lookout, at the mouth of the Potomac river, where excellent facilities are at hand for establishing a summer resort. About thirty-five miles of road must be built to give it a tidewater terminus. The Washington & Potomac has been in the courts for several years, but a recent decision in Philadelphia will remove the main obstacles to its completion. It is also a feeder to the Baltimore & Potomac division of the Pennsylvania system.

Railroad Notes.

CITIZENS of Knoxville, Tenn., have obtained an injunction restraining the city authorities from issuing the \$225,000 worth of bonds to the Knoxville, Cumberland Gap & Louisville Co., which the city council recently voted to issue. It is alleged that the road has not fulfilled its part of the contract with the city, and that the latter is not compelled to issue bonds.

THE Gulf, Beaumont & Kansas City has placed its first order for rolling stock, which consists of twenty platform, ten box, two cabin and two passenger cars.

RECEIVER AVERILL, of the Port Royal & Augusta road, has given an order for five eight-wheel passenger engines and one six-wheel freight engine for use on the road. They will be built by the Richmond Locomotive & Machine Works and will cost \$49,100.

MR. J. W. HILL, of Pittsburg, Texas, whose views respecting contracts for constructing the Paris, Marshall & Sabine Pass were published several weeks ago, wishes to correct any impression that he is connected with this road. He advises the MANUFACTURERS' RECORD that he has no connection with it whatever.

JOSEPH S. CLARK and John P. Ilsley, of Philadelphia, are among the incorporators of the Sanford & St. Petersburg. This is the Orange Belt Railway of Florida, which was sold at foreclosure in March last. It is about 150 miles long and extends be-

tween the points named. The present officers are E. T. Stotesbury, president; William Mac Leod, vice-president; George A. Hill, secretary and treasurer. Directors, E. T. Stotesbury, William Mac Leod, John P. Ilsley, Joseph S. Clark and Thomas E. Wilson.

THE society for the prevention of smoke in Chicago is making life unpleasant for railway companies with smoking engines. The Illinois Central was fined \$50.00 Thursday for running an engine with no smoke consumer and \$75.00 for permitting three engines to emit clouds of smoke. Action is pending against the New York, Chicago & St. Louis Railway—the Nickel Plate line.

THE attorneys of the International & Great Northern Railway endeavored to have the suit to prevent the Missouri, Kansas & Texas from entering Galveston over their leased line heard in a United States court. Judge Bryant, of the latter court, denied the application, and the Missouri, Kansas & Texas people have scored their first point in the legal contest.

THE Rock Island announces that it will be ready for passenger business to Fort Worth and intermediate stations on the Texas line August 20. A through train of Pullman and chair cars will be run from Chicago to Fort Worth, leaving Kansas City for Fort Worth at 10.30 o'clock each morning and arriving in Kansas City from Fort Worth at 5.30 o'clock each afternoon.

ATTILLA COX, of Louisville, has been appointed receiver of the Louisville, St. Louis & Texas upon the application of Post, Martin & Co., of New York. The receiver is bonded for \$100,000 and he is to take charge at once.

A DECISION has been given by Hon. W. D. Nottingham, master in chancery, that the Georgia Central is liable for a bill of \$50,000 incurred when it was being operated by the Richmond & Danville. The Central has appealed from the decision, claiming that the bill should be paid by the Richmond & Danville.

IT has been decided to discontinue the fast train on the Georgia Central system known as the "Nancy Hanks." This was one of the finest-equipped vestibule trains ever placed in service in this country, and its average speed, including stops, was nearly a mile a minute.

ACCORDING to the report of the Missouri auditor, the railway property in the State is assessed at \$62,023,417.19. The number of systems operating wholly or partially in the State is sixty-five. This includes suburban and electric lines.

THE St. Albans Coal River Railroad Co. has bought the property and franchises of the Coal River & St. Albans road for \$236,000, payable in capital stock. This line is to be built along Coal river in West Virginia.

Louisiana Orange-Growers Organizing

A meeting of the orange-growers of Louisiana for the purpose of forming an organization was recently held at Buras station, the terminus of the New Orleans, Fort Jackson & Grand Isle Railroad, and was attended by a large number of citizens interested in orange culture. Mr. Harry Gilmore was called to the chair and explained that the object of the meeting was the formation of an association among the orange-growers for mutual protection. After some discussion on points relating to the state of the industry and the drafting of a constitution and by-laws to govern the new association, the meeting adjourned without perfecting an organization, to meet again on the 20th inst. at Buras, La., when it is expected there will be a large attendance of all the planters interested in orange culture. Mr. R. T. Pugh, late of Wisconsin, was present, and will be a prime mover in all enterprises relating to the improvement of the orange industry.

COAL AND COKE.

Coal and Petroleum in Colombia, South America.

WASHINGTON, August 14.

The Bureau of American Republics is about to make public, through one of its publications, a full report on the coal deposits of the Atlantic coast of the republic of Colombia, South America. This report, which was prepared by Dr. C. F. Z. Caracristi, C. E. and L. D., of Washington, D. C., will also embrace the petroleum springs of the territory adjacent to the Gulf of Uraba.

Mr. Caracristi, speaking to a representative of the MANUFACTURERS' RECORD, said: "I am just lately back from Colombia, and am somewhat fatigued from the hard work that I accomplished while away. I would feel some delicacy in giving out for publication any advice previous to the issuance of the report by the Bureau of American Republics, were it not that the information might be of valuable service to the industrial interest of the three Americas. If the MANUFACTURERS' RECORD should devote a small portion of its powerful energy to the interest of Latin America I am quite confident that it would develop valuable results, and I am, therefore, very glad to do anything that would give beneficial impulse to pan-American ideas.

"The coal beds of Colombia hold perhaps the most prominent position of any coal deposits in the world, from the fact that they are found at about a central point of the American continent, and occupy a position that would, if developed, control the cost of maritime transportation in its relation to South and North America and Europe.

"I estimate the coal imported from foreign countries into South and Central America at about 3,000,000 tons yearly. This importation, which embraces coal brought to these countries in steamships and by them consumed in returning to their respective ports of entry, costs \$12,000,000 freight dues, besides expenses. The value of coal in South and Central America is from \$7.50 to \$15.00 (mostly \$15.00 per ton), which gives us an average of \$11.25, or a total value of coal imported at \$33,750,000.

"I merely give these figures as a prelude to show the necessity for home coal production in these countries. The coal beds of the Atlantic coast of Colombia embrace 12,000 square miles, or one and a-half times the area covered by the coal measures of the State of Alabama. These measures are divided into two sections—that embraced in the bituminous and anthracite deposits of the departments of Cauca and Bolivar, 8000 square miles, and that embraced in the anthracite and cannel coal of the department of Magdalena, in the valleys of the Sierra Nevada de Santa Marta mountains and the plains of the Cienaya Grande, 2000 square miles.

"These coal measures are at a distance of from one to sixty miles from the ocean and offer one of the most abundant supplies of coal in the world. The Colombian government controls all the coal beds within the republic that border on the sea front or lie at a distance of fifty kilometers from any navigable river.

"The veins of coal vary in thickness from one to forty feet and are found in a regular formation, with sandstone walls, putty seams, etc. Some of the samples give an analysis of 66 per cent. volatile matter, while the anthracite is superior to the Pennsylvania coal in point of heating quality, and the ash quantity is 8 per cent.

"Of all the petroleum springs known, I believe those of the Gulf of Uraba to be the most wonderful. One of the springs, only a few thousand yards from the ocean, has a boiling crater twelve inches in diam-

eter, while the oil stands around in open ponds. I counted over forty springs of various sizes.

"From a naval standpoint I look upon the coal beds of Colombia as extremely valuable in assuring the endurance of war vessels while in the South Atlantic. Coal at this point would make it possible for the operation of warships of small tonnage, as they could coal at their convenience and would not be burdened with unnecessary cargoes. These coal deposits hold an enviable position in their relation to the economical and strategical future of the Americas.

"Colombia is a great country; its people are a good, hospitable people, and, with the evolution of its material resources, it is destined to hold a high rank among the enlightened nations of the globe."

Improvement in Kanawha Valley Coal Trade.

Among the Kanawha valley coal mines operations for some weeks past have been practically at a standstill. Some of the mines have been working half and three-quarter time and others only occasionally. A general improvement, however, has set in, and it is said that an early resumption of all the mines is probable. Three of the largest concerns have already resumed operations. M. T. Davis & Co. have started up with a full force at their mines on Morris creek; Carver Bros. have put a full force to work in each of their mines, and the Chesapeake Mining Co., at Handley, has resumed work with a full force. Several new tipples are being put in along the Kanawha & Michigan extension, and a good deal of coal will be carried over this line as soon as they are completed.

Coal and Coke Notes.

THE Fahey Brothers, of Elk Garden, W. Va., have secured a tract of "big vein" coal land opposite Shaw station, on the West Virginia Central & Pittsburgh Railway, ten miles south of Piedmont, W. Va. It is said to be from eighteen to fifty acres of land containing the big vein coal. It is to be developed very soon.

A COAL elevator and trestle is to be built at once at the Galveston wharves capable of transferring 600 tons daily. It is to cost \$10,000 and will be used largely in unloading vessels.

THE coal field at Austell, Ga., previously mentioned, is already attracting capitalists and others. Dr. Tiernan, of Atlanta, Ga., returned on the 4th from Austell, where he made some startling discoveries in anthracite coal. The coal field is some four or five miles square and surrounded by a rim of granite. The proper investigations are being made by experienced mineralogists, who will report to Messrs. Austell and Thornton.

A MEETING of the stockholders of the Coal Creek Coal Co. was held in Mobile, Ala., last week to fill the vacancy on the board caused by the death of Hon. Gaylord B. Clarke. Among those present were Gen. J. W. Burke, of Jacksonville, Ala.; L. B. Musgrave, of Jasper, and N. W. Trimble, of Birmingham. The officers elected to fill vacancies were Dr. O. S. Crampton, of Mobile, vice-president, and Mr. Thomas W. McDonald to the directorate. This company owns valuable coal lands and mines, and on the opening of the Coosa river they will be a great source of wealth to those interested.

THE coal and coke business of the Mingo Mountain Coal & Coke Co. has been exceptionally good for these hard times. The company has a line of good gas-coal contracts in Macon, Atlanta, Chattanooga, Memphis and other Southern cities, with prospects of more large contracts very soon. They have also some large railroad contracts for steam coal. A new revolving screen has been put in at mine No. 2.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

Cottonseed Oil in Holland.

ROTTERDAM, July 29.

Editor Manufacturers' Record:

The market for cottonseed oil has again been very quiet during the past week, and not much business has been done. The butterine manufacturers are all still well supplied with oil, and as they do not use much oil in summer they are very little inclined to pay the high quotations asked by the owners. Some of the owners have accepted the price of thirty-six guilders per 100 kilos ex warehouse for choice oil. The price remains obtainable, but many of the owners will not sell their goods at this figure, and therefore business remains slow.

America reports that stocks are small, but still good quantities are arriving here. Some houses in America are inclined to sell the oil of the new crop, but still no business in new oil has been reported. Lard prices are getting more moderate, and therefore we shall probably have lower prices for oil of the new crop. An offer at moderate price should certainly lead to the sale of several thousand barrels. Some butter-makers are already inclined to buy new oil, but they will only buy if prices are moderate.

G. W. SANCHES.

ROTTERDAM, August 5.

Editor Manufacturers' Record:

The following are the official figures published this week by the direction of the warehouses:

GROSS WEIGHTS.

	Stock on July 1.	Arrivals in July.	Deliv's in July.	Stock on July 31.
Rotterdam..	6,335,464	1,535,868	999,765	6,871,589
Amsterdam..	498	498

The stock in the warehouses has increased during July by 536,103 kilos. The stock in the royal warehouse amounts to 6,871,589 kilos gross, equal to over 33,000 barrels, so our market is still very well supplied with oil.

The market has been very dull the past week, owing to the severe break in lard prices, and the butter-makers prefer to wait, and they will not buy. They do not want much oil in summer, and they prefer to wait till the market is in somewhat better condition and more steady; therefore it is difficult to say what prices could be obtained. Some holders of choice butter oil are inclined to sell at thirty-six guilders, but the butter-makers did not buy at this figure.

The American Cotton Oil Co. has opened its European office here and will handle cotton oil just as the American Petroleum Co. is handling petroleum. They are building a tank steamer and are building an oil tank at this place. Of course, shipping their goods in tanks, they will pay much lower freights and they will have much lower expenses for storage, etc., but it is impossible to say if this will do much damage to other oil refiners in America. Many firms here are thinking that it will not do very well to ship cotton oil in tanks, because in winter the oil is not liquid, and it will do a great deal of damage to the quality if the oil is always warmed and held liquid.

G. W. SANCHES.

A New Oil Mill at Austin, Texas.

The Austin Cottonseed Oil Co., of Austin, Texas, has its extensive plant nearly ready for operation. All the machinery that will be needed is now either on the ground or in transit. The seed-house is 102x200 feet and built of wood,

while the remainder of the plant, built of brick, is about 70x250 feet. In the building there has been used over 1,000,000 feet of lumber bought from the Calcasieu Lumber Co., and 800,000 brick furnished by M. Butler, of Austin. The plant is fitted with the most approved machinery, capable of handling sixty tons of seed per day, the power being supplied by a 125 horsepower engine. The storage arrangements for the oil consist of ten 2500-gallon tanks set up in a detached brick building. The company is already purchasing seed and work will commence on the 1st of September.

Cottonseed-Oil Notes.

THE sale of the plant of the Milledgeville Oil & Fertilizer Co. on the 8th inst., by order of the court, to the Milledgeville Banking Co. for \$5000, and its subsequent sale to Atlanta parties, will prove, perhaps, the best investment for those interested that they ever made. The late troubles of the company, previously mentioned, caused a suspension of operations, and lack of confidence has now caused the property to be sold for a song.

THE cottonseed-oil mill at Caldwell, Texas, was completed on the 5th inst., and the machinery is in perfect running order.

THE secretary of state has granted a charter to the Texas Cottonseed Co., of Houston, Texas, with a capital stock of \$20,000. The directors are C. S. Wigg, H. B. Rice and H. F. MacGregor, all of Houston.

THE Brenham Compress, Oil & Manufacturing Co., of Brenham, Texas, started up their new gin on the 7th inst. It consists of nine 70-saw gins, with all the improved feeders, condensers, etc. With this gin, the capacity of which is 100 bales a day, their new seedhouses and the new boilers and engines and other machinery put in the oil mill, increasing its capacity to 100 tons per day, together with other improvements, the company has spent \$40,000 this summer.

THE new cottonseed-oil mill at Caldwell, Texas, has been completed and operations have commenced.

THE Martin Oil Co., of Martin, Texas, is about to enlarge its electric-light plant so as to furnish light for their gins and some business houses. The company has now plenty of water to commence operations.

THE Lombard Works at Augusta, Ga., have just shipped two carloads of machinery to Atlanta and one to Houston, Texas. They are now working on a large tank for New Orleans, and have finished a contract on the courthouse and one for the Columbia Cotton Mills at Columbia, S. C.

THE farmers and planters of Jefferson county, Miss., have called a cottonseed convention to be held at Fayette, Miss., on the 19th inst. to fix a price at which they will in the future dispose of their seed to the cotton-oil mills.

THE Maginnis Cotton Mills, of New Orleans, shut down on the 12th inst. The cessation of work is in no way due to the strained financial condition of affairs, but is in accordance with an agreement reached by the stockholders about three weeks ago, when it was decided to close down and repair the machinery.

THE Marion (S. C.) Cotton Mill has reduced its operating force and is now working on half time on account of the low price of yarn. The depression in this line will probably be over by September 1, and the plant will again run full time.

THE miners have returned to work in the Vernon county, Mo., coal mines and nearly all the workings are manned. It is believed that the strike is now at an end.

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BALTIMORE, AUGUST 18, 1893.

Facts for Western Farmers.

Just at this time, when there is so much distress and discontent among Western farmers because of the business depression and low price of crops in that section, there is an opportunity to secure thousands of desirable settlers in the South by showing to these farmers in the West the opportunities that the South offers them. A few definite, specific facts about the South, placed before Western people at this time, will be productive of great good to the South. The MANUFACTURERS' RECORD desires to obtain detailed information about the experiences of the Northern and Western people who have gone into the South and settled there. We would like to know what has been paid for land, what crops have been raised, what their cultivation has cost and what has been received for the crops. We want all the facts in specific cases, and we will take pleasure in placing this information before thousands of people in the West and Northwest. If those who are interested in the immigration movement will furnish us with the facts we will make use of them in a manner that will greatly benefit the South. We do not want general information, but facts in detail. And there is urgent need for immediate action.

GEORGE H. MCFADDEN & BRO., of Philadelphia, have in contemplation the establishment of a line of steamers between Galveston, New York and Philadelphia, and perhaps Liverpool. They have been in negotiation with the Galveston Wharf Co. and stated that it was their intention to establish a line of steamers similar to that of the Mallory Line, and that they would require wharfage and warehouse room. Mr. John E. Bailey, secretary of the wharfage com-

pany at Galveston, says that this firm does an immense business now through their shipbrokers, and that their business is becoming so large that they have concluded to handle it themselves and realize the profits therefrom. McFadden & Bro. have selected Richard Lord, of Galveston, as traffic manager, and it is expected the line will be in operation inside of the next ninety days.

We print this week a very interesting article on "Stock-Farming and Dairying in the South," by Mr. H. B. Wetzell, of Knoxville, Tenn., a gentleman whose extensive experience in the examination of timber properties in the South has given him excellent opportunities to study pasturage conditions in the higher altitudes of North Carolina and Tennessee. The facts presented by him will doubtless be a revelation to many of our readers in the North, particularly those who have only that superficial knowledge of Southern conditions acquired from car-window observations. There are vast areas of grazing lands in the South that are unsurpassed by the Western prairies, and they enjoy the additional advantage of being available throughout the entire year. Even in Florida, so generally regarded as a region of pine barrens and tropical jungle, there are thousands of acres of prairie land in the reclaimed section, where cattle can roam from January to January with rich and abundant fodder. The pasture lands of the South have the additional advantage of closer proximity to the great markets of the Eastern seaboard. Dairying, as known in the North and West, has practically no existence in the South, but its possibilities are immense. The opportunities for profitable stock-raising and dairying in the South are but a suggestion of the vast resources of that section which are in reserve for future utilization. Men possessed of moderate capital and abundant energy and intelligence can find unrivalled opportunities in the South for engaging in enterprises that are sure to yield large returns.

Southern Real Estate.

Announcement has just been made that the annual convention of the National Real Estate Association, which was to be held in St. Paul on Monday, Tuesday and Wednesday of next week, has been postponed indefinitely on account of the existing financial depression. However much the necessity of this postponement may be regretted, the wisdom of this course is apparent. In the North and West the urgent demands of the financial situation are absorbing all attention, and there is little opportunity to consider new business ventures and trade topics which at other times would be of great interest and importance. By this postponement until a more propitious season the good results of the convention undoubtedly will be very largely increased. It is a source of great regret that this representative body of real estate men has such a small membership in the South, and we hope that the interval created by the postponement of the convention will be made the occasion of active missionary work in the South by the moving spirits of this organization. The real estate situation in the

South is especially favorable, and every indication points to a continuance of activity in every branch of real estate transactions. City property in the South is especially in favor just now as an investment, and the turning of attention Southward from the West and Northwest is creating active inquiry for Southern farming property. We believe that Southern real estate never offered so many elements of attraction to bona fide purchasers as at the present time.

The Southern Financial Situation.

The financial "starvation in the midst of plenty" from which the country is suffering caused the most serious trouble the South has yet experienced during the past week. Inability to obtain cash on such assets as gilt-edge mortgages on real estate, amply endorsed notes, corporation bonds paying interest of 5, 6 and 7 per cent., caused the suspensions of the Nashville, Birmingham and Mobile banks. No panic was produced by the suspensions. They developed a surprisingly strong feeling of trust among depositors, and arrangements are being made to reopen several of the banks at once. It is safe to say that every bank in the cities named is solvent. Southern bankers are now standing together as never before. The banks at Staunton, Va., Lynchburg, Va., Danville, Va., Jackson, Miss., Richmond, Va., Washington, D. C., and New Orleans, La., have formed associations in the several cities, pledging mutual support. Currency is being replaced by certified checks, which are being accepted as a circulating medium. This course of action has done much to relieve anxiety. The fear that money could not be obtained to relieve the cotton crop is dispelled. The reports from various centres, given elsewhere in this issue, show that the cotton will be moved. This is the brightest feature in the situation this week. It means the usual sales of cotton and a corresponding movement of money into the South this fall. Business throughout this section is reported as very light, which indicates that consumers are economizing and merchants are awaiting the action of Congress before giving orders. This is true of the general situation also. The outlook for future railway earnings is not encouraging. Chicago business has not come up to expectations, and many through trains have been discontinued. Southern managers have acted promptly in cutting down expenses wherever possible to balance the anticipated decrease in railway earnings. The stock market during the week has been erratic. Agents for foreign investors, however, have continued to buy on "breaks." The gold movement continues. Thus far about \$30,000,000 have been imported this year, most of it within three weeks, against exports since January 1 of \$68,687,969. Wheat exports for the week ending August 10 were 3,130,000 bushels, and flour 419,600 barrels, against 3,804,000 bushels and 404,010 barrels for the week ending August 4. There is, however, a large increase over the corresponding week of 1892, which shows the great demand from abroad continues.

At the present stage of affairs everything indicates plenty of money in the

country, but much of it hoarded in savings banks, trust vaults, stockings and cellars to be withdrawn so as to bear interest just as soon as the imaginary fears of the owners are allayed. The scarcity of small bills is not as pronounced as a week ago, and money brokers cannot obtain premiums of 1½ and 2 per cent. for them.

Plenty of Money to Move Cotton.

The apparent scarcity of currency so prevalent in the country has given rise to the impression that the South would find difficulty in moving the cotton crop on account of lack of funds. The banks in the cotton-producing localities are usually relied on to advance the money necessary for transportation charges, etc., and it has been feared that they would not be in a position to meet the unusual demand. Speculators have made use of the report, and have circulated it so extensively for the purpose of affecting prices that cotton factors and business men throughout the country have feared that serious trouble would ensue as soon as an attempt is made to move the cotton in bulk. A summary of telegraphic reports from Southern banking centres, however, show that the bankers are prepared for the emergency, and that when needed all the money necessary for exporting the cotton will be forthcoming.

The dispatches in brief are as follows:

Atlanta, Ga.—There is going to be no trouble in Atlanta this fall about moving the cotton crop. Atlanta and this region of the State of Georgia need fear nothing in this respect.

Charleston, S. C.—The Charleston banks will be abundantly able to furnish all the money needed to ship every bale of cotton that can be shipped to this port.

Augusta, Ga.—One-quarter of the money needed to ship the crop is now in the hands of the planters in the shape of bagging and ties. It is estimated that not over \$2,500,000 will be needed to start the crop, which will command enough cash at once to complete harvesting and place planters in a condition to hold their cotton if necessary, as the Georgia farmers are in a better condition financially this year than at any time since the war.

Memphis, Tenn.—The opinion is unanimous that ample funds will be at hand to move the crop without delay. The business situation is much improved and a better feeling exists.

Mobile, Ala.—There is an abundance of money in Mobile banks ready to be advanced as soon as the cotton is ready for market. This is the statement of the principal banking houses.

New Orleans, La.—The New Orleans Cotton Exchange has been giving the matter its special attention, and has passed a resolution that all settlements in cotton transactions can be made by use of certified checks in case the currency is not at hand. But to make assurances doubly sure the government has advised the sub-treasury at New York to wire the sub-treasury at New Orleans to pay out silver dollars in exchange for bank paper as fast as currency is received for the sale of cotton in New York. This will avoid any delay in shipping currency to New Orleans to meet demands which may arise from the cotton shipments.

CORRESPONDENCE

Water Works Wanted.

WINCHESTER, VA., August 9.

Editor Manufacturers' Record:

Winchester will improve her water system and will need pumping machinery and either a standpipe or reservoir and pipe up to twelve inches. The work will be commenced as soon as possible. Mr. C. E. Hoover, chairman of the water committee, is in charge of the matter.

C. E. HOOVER.

A Dissenting View on the Silver Bill.

CLARKSVILLE, TENN., August 9.

Editor Manufacturers' Record:

In your issue of the 4th in "The Silver Question in the South" you say in the first column: "The sentiment of the South, as expressed in these replies (bankers only), is unmistakable, and it is the duty of Southern members of Congress to act in accordance with the expressed wishes of their constituents." This position seems not tenable. Are the Congressmen elected by their constituents—the bankers? Have the laboring masses, so often ground down by adverse legislation, lobbied by capitalists, always the same interests as the bankers? Have the people ever made the bankers their mouthpiece? Have not, as a rule, the interests of Wall street (the typical money power of the East) been one thing and the interests of the masses another? Has not the legislation since the war shown this repeatedly? Are not the profits of bankers often increased by legislation adverse to the interests of the masses? Bankers should be gratified by your sentiment that the Congressmen should obey their wishes, being their constituents, and you suggest there are no others.

M. H. CLARK.

The Catalogue Question.

COLUMBUS, OHIO, August 8.

Editor Manufacturers' Record:

We were interested in reading over your suggestions about trade catalogues, which we think "hits the nail on the head." We have experienced the same annoyance that you refer to in the way of receiving valuable catalogues, which were so ill-shaped that it was almost impossible to file them away with any system. Seeing the advantage of a catalogue of a standard size, we have, together with a large number of manufacturers of elevating and conveying machinery and power transmission machinery, made our catalogue about eight by five inches, which seems to be a very desirable size, both for filing and for general use. We also, as far as possible, avoided anything in our catalogue but practical illustrations, and thought it was best, as you state, to make the catalogue simply a business agency. However, we are not losing sight of the fact that a catalogue well printed on good paper and substantially bound in an attractive cover stands a better chance of being kept for reference than a cheaper one. We are constantly getting out catalogues and circulars, and if you receive any suggestions which may seem valuable, we hope you will give your readers the benefit of the same, as it is quite a problem to know how to advertise by means of circulars and catalogues to the best advantage.

R. GROSVENOR HUTCHINS,
Purchasing Agent Jeffrey Mfg. Co.

Wanted—Laws for the Poor Man.

OCALA, FLA., August 14.

Editor Manufacturers' Record:

The questions you are sending out to Southern bankers and the publication of their replies are a waste of time and a work of supererogation.

It is admitted that bankers and money-lenders as a rule are against silver and in

favor of gold, but I am glad to see, even from the replies you publish, that there are many noble and notable exceptions among them; but the people, the great borrowing and debtor class, favor both metals, and would stand very much in their own light if they did not.

The man, it seems to me, is inexcusably blind who cannot see that the adoption of a single gold standard that excludes silver would only benefit the already rich. It goes for the saying; nothing can be truer; nothing could be plainer; an argument to prove which, it occurs to me, would be an insult to even ordinary intelligence.

An abundance of money—not cheap money, not "green goods" money, but good money, money bearing the faith and credit of the government stamped upon it, would relieve the great struggling, toiling masses, and the people want the two metals in all the abundance the bountiful earth will yield them; they want them coined into money and the guaranty of the government stamped on both alike, thus clothing both with equal dignity, value and soundness.

This undoubtedly would lessen the power of the rich, would loosen his hold upon the poor, but would be as manna to the masses.

And why should this not be? Why should all legislation forever continue for the benefit and protection of the rich, as it always has been from the beginning of civilization? Why not in a democratic government give the poor man a chance? Making money of both metals would give him a little glimmer of hope.

F. E. HARRIS.

North Georgia for Immigrants.

FLOYD SPRINGS, GA., August 8.

Editor Manufacturers' Record:

I have just received by mail a copy of your valuable paper, and as usual I turn to the editorial page to get the situation in a nutshell. I am so forcibly struck with what you have to say as to this being the opportunity for the South to get emigrants from the West by telling the Western people what the South has to offer them, that I will occasionally, through your columns, give a few facts showing some of the inducements offered by north Georgia. At this writing I will speak of fruit-growing, especially peaches. Our mountain hills are wonderfully adapted to this fruit, but we are just finding it out.

The range of our hills is from east to west, giving us the north and south sides and the top for our trees. We rarely ever fail to have fruit. There is just enough iron in our hills to give the peach a color and size that cannot be surpassed anywhere. I sent a sample from my orchard to the World's Fair and received a letter from the president of the horticultural department stating that my early Crawfords were attracting the notice of peach-growers from all sections.

I would give a few figures showing how much money 150 trees of this variety netted me this year, but I am afraid it would not be believed; suffice it to say if any of your readers want to go into the peach-growing business north Georgia is the favored section. Lands can be had at from \$5.00 to \$10.00 per acre. We have a movement on foot to inaugurate a system of village-farming here, with a fine-water power for manufacturing purposes as a basis. Just now we are corresponding with parties with a view of starting a basket factory at this place. We have the power and any amount of soft woods, such as white poplar, wahoo, seven-barks, etc. We would like to correspond with any one who has experience in this business or machinery.

Our newspaper men are not doing their duty on this particular line just now. They ought to follow your example, quit so much

talk about the Sherman bill, and do more about getting our lands properly cultivated by offering inducements to Western emigration. Emigration of the whites to the South means migration of the negro somewhere.

G. W. FLEETWOOD.

GENERAL NOTES.

Brief Mention of Various Matters of Current Interest.

A STEAMBOAT to run between Dublin and Milledgeville, Ga., is being built at Dublin. It will make its first trip on the Oconee river about November 1. The capital stock of the company that is building it will be \$5000 in shares of \$100. Of the fifty shares in the company, thirty-seven have already been taken.

A GEORGIA legislative committee, appointed to consider the question of enlarging the State lunatic asylum, will recommend that \$120,000 be appropriated for erecting new buildings to accommodate 600 additional patients. No action will be taken until the next session of the legislature on the recommendation.

THE exports from New Orleans for the fiscal year ending June 30, 1892, were \$78,936,938 domestic and \$439,277 foreign. The duties on imports were \$1,446,404.50 and drawbacks paid \$41,796.74.

JUDGE BROOK, in the corporation court at Norfolk, has granted a charter to the Virginia Farmers' Insurance Co. The purpose of the company is to conduct the fire and marine insurance business, with the principal office in Norfolk and power to establish branch offices. The capital stock of the company is to be not less than \$25,000 nor more than \$100,000, with the following officers: T. H. Stiff, president; H. F. Harrison, secretary; J. Wesley Gibson, treasurer, and these, with L. C. Ware and J. F. Shackleford, comprise the board of directors.

AMONG the Southern congressional representatives who have been giving special attention to the financial question is Congressman Terry, of Little Rock, Ark. Mr. Terry has about completed a bill providing for averting any future financial stringency, and will submit it to his constituents for approval before sending it to Congress.

THE only individual failure in any way connected with New Orleans is the suspension of the Crescent City Lumber Mill at Harvey's Canal, opposite the city, which has thrown 400 men out of employment. Building trades have never been in better condition, the amount of building going on being 60 per cent. greater than at any time last year. There is equally as much activity in foundry and machine shops.

THE city of Florence, Ala., has not had a bank failure in over two years. It is also true that there is not an insolvent business house in the city. This is a record that few communities of its size can boast of.

A CIRCULAR has been issued by the central board of agriculture of Mexico to the farmers throughout the country requesting them to send delegates for the purpose of forming the syndicate which is to organize the agricultural bank of the City of Mexico and elect directors and officers for the same. All of the states of the republic will be represented in the proposed financial institution.

SOME of the States far south are manifesting interest in Virginia's material progress. Requests have come to Richmond from that section for printed matter giving information as to the mineral and other resources of this State. The papers

of the four Southern executives, prepared under the authority of the convention held at Richmond last spring, will be ready to send out by September 1. Each of the four States is to receive 10,000 copies. Some of the governors have requested a portion of their share of these publications to be forwarded to Chicago for distribution at the exposition.

THE first two bales of Sea Island cotton were received last week at Savannah, Ga., on Friday last, one consigned to W. W. Gordon & Co. and the other to Buttler & Stevens. They were at once sampled and placed on sale at the cotton exchange.

THE rice-mill companies at Crowley, La., are pushing forward the work of completing their mills to be in readiness to handle the present crop. The Star Rice Mill Co. is pushing the work of getting the machinery in place in its building, and expects to be able to start up in about two weeks. The machinery for the elevator of the National Rice Mill Co. has arrived and will be put in place as soon as the lumber arrives.

THE Alamo Building at Sedalia, Mo., has been sold to W. S. Pope, of St. Louis, Mo., for \$25,000 by its owner, E. W. Stevens. The building is one of the largest in the city.

Rebuilding a Town.

The citizens of Snow Hill, Md., have already begun building the business portion of the town, which was nearly destroyed by fire a few days ago. A large force of men is engaged in removing debris from the burned section. It is proposed to pass a law allowing only brick buildings to be erected within certain limits. Among the buildings which will be erected at once are the First National Bank, L. A. Purnell's hotel and brick stores for G. M. Dryden and M. S. Wilson. In all contracts have been closed for constructing eight large buildings up to date.

Southern Iron Notes.

ALLEGHANY FURNACE, at Iron Gate, Va., will go into blast once more. Mr. Merriweather Jones, the secretary and manager of the furnace, received full telegraphic instructions on the 5th inst. from F. C. Dimmery, of Elmira, N. Y., the backer of the concern, to start up at once. The Alleghany is the largest furnace in the South.

THE stockholders of the Rich Patch Iron Co. will hold their annual meeting in September to elect officers and transact other business.

THE adjourned annual meeting of the stockholders of the Stanley Furnace & Land Co. will be held at the company's office in Stanley, Va., on next Friday. Directors and officers will be elected for the ensuing year and general business transacted.

THE Victoria furnace at Goshen, Va., is preparing to blow out. It will only be operated long enough to manufacture the present supply of ore, which will require about a month. Low prices and general stagnation in the iron trade are the reasons given for ceasing operations. The plant employs more than 100 men.

THERE is a strong probability that the Town Lands Co., of Middlesborough, Ky., will soon be in a position to complete the South Boston Iron Works and to carry out its plans in other directions. At a meeting of the stockholders in London on the 4th inst. it was ordered that bonds to the amount of £75,000 be issued by the Town Lands Co., of which £40,000 shall be sold immediately. The committee was authorized to sell the £120,000 of treasury stock at such times or on such terms as they deemed proper.

MECHANICAL.

Notes on World's Fair Exhibits.

[From our own Correspondent.]

CHICAGO, August 14.

STANDARD TOOL CO.

The Standard Tool Co., of Cleveland, Ohio, has an interesting exhibit, consisting of three cases and a sample table of increase twist drills, sockets, reamers, taps, milling cutters, mandrels, arbors, chucks, emery-wheel dressers, etc., and a twist drill grinding machine, in section 29, column J K, 53, machinery hall. A very attractive mechanical piece of work is the large case, nine feet high by ten feet long, displaying twist drills from .013 of an inch to six inches in diameter, and from three-quarters of an inch to twelve feet long, besides reamers, taps, milling cutters, etc., of every description. The new expansion reamer has also attracted the attention of all, and has been approved by the many mechanics who have examined it. The emery-wheel dresser is one of the best tools of its kind now on the market; the cutter presents the same cutting surface until it is used down to the hub, and the cutter can be made to fit any handle. The twist drill grinding machine for pointing drills is simple and perfect in its construction, and is shown running by a small motor. This machine can grind drills to an exact centre and perfect angle without removing the drill from the chuck.

LEVI HOUSTON.

The exhibit of Levi Houston, of Montgomery, Pa., composes his principal machines—molders, tenoners and mortisers. The new 10-inch mortiser with five heads is something new and attracts considerable attention. It has two top cylinders, so that in taking a heavy cut the feed of the machine can remain the same as when taking a light one, since one cylinder takes the roughing and the other the finishing cut. When planing weather-seasoned stuff the head takes out the grit so that the finishing cut can be perfectly smooth. The other machines are well known to the trade. The exhibit is in machinery hall annex, I, 41, in charge of Hill, Clarke & Co., Western selling agents.

WILLIAM S. DOIG.

William S. Doig, of 24 Franklin street, Brooklyn, N. Y., has on exhibition his box-nailing machines, which have become well known in this country and abroad. These machines are automatic in action and nail in the centre of any thickness of stuff. They have also an automatic cut-off feeder to feed different numbers of nails at different revolutions. They are suitable for nailing tobacco boxes or others of larger size. By its use framing or bottoming, using nails from three-eighths to one inch in length, can be done, and a bottom can be nailed on in two revolutions. It is an exceedingly interesting machine and well repays examination.

P. PRYBIL.

One of the most interesting displays at the World's Fair in the line of woodworking machinery is that of P. Prybil, of New York city, at F, 45, machinery hall. The twist machine will produce all kinds of spiral or rope moldings, either straight, tapered, curved or oval. It will make right, left or pineapple cuts, and will do straight fluting. It will cut from one to six threads on a piece, and will make any degree of twist from one turn in one and a-half inches in length to one in ten and a-half inches. Two different styles of cutters are provided. One is similar to that used on variety shapers and uses the same steel. The knives are held between collars that are somewhat similar, but so arranged that they have a peculiar action, cutting from the outside in and making a smooth cut, even against the grain. They

revolve always in the same direction, whether the twist be right or left, and one set will produce several different shapes of work. Changing from one degree of twist to another or from right to left takes less than one minute. The other arrangement of cutter acts like a boring bit, and, although it works much less rapidly, it is found useful for some forms of work that cannot be made with the other cutter. This machine will swing eight inches, and will take five to ten feet between centres, according to length ordered. Medallions of any size from nine inches square or six by twelve inches oblong shape or style can be made on this machine by use of an attachment which can be placed on the machine in one minute. Another interesting machine is the combined corner-block, dovetailing and edge-molding machine, which will produce from fifteen to twenty blocks in one minute. By cutting one rosette in another on a long strip of wood some very handsome moldings are made which have the appearance of carving. For this purpose an adjustable gage is provided, and for corner blocks central. When detached rosettes are to be made a special attachment is used which holds them after the corners of the block have been completely cut away and lifts them off the cutter when finished. The dovetailing attachment is an ingenious device which can be used with any single or double molder for quickly and easily making dovetailing stock of medium thickness as required in cabinet and box work. The pieces are firmly clamped by two hand screws, and after bringing the template on the edge of the attachment in contact with the collar on the cutterhead, which acts as a guide, a perfect dovetail is formed simultaneously on both pieces by moving the attachment so as to bring each point of the template successively in contact with the collar. The parallel swing saw, which works on a perfect straight line, is also on exhibition. This allows the use of a small saw for cutting wide and thick lumber, and also allows the use of a dado head for grooving, gaining, rabbeting, tenoning, molding, etc. For the last-named purposes it is of especial value, as the work is done from the top, where it can always be seen.

JAMES LEFFEL & CO.

The exhibit of Messrs. James Leffel & Co., of Springfield, Ohio, the well-known manufacturers of the James Leffel water wheels, steam engines and boilers, is located in the northeastern section of the mines and mining building.

It consists of one of their 15¼-inch single discharge mining wheels on horizontal shaft, known as style No. 7. This style is well adapted to mining purposes and is in general use under high heads, where gears for the transmission of power are not only difficult in application, but troublesome to keep in order.

This style of wheel, however, is not confined in its adaptation to mining purposes alone, but is frequently used in saw mills, woolen and cotton mills, and, in fact, for driving any kind of machinery where the power is taken from the main horizontal line shafting. The horizontal shaft of the wheel, on either end of which may be placed one or more pulleys, affords the easiest and most effective means of transmitting the motion of the wheel to a main line of shafting by the use of straight belts or ropes.

This style of wheel shows the simplest modification of the type running on horizontal shafts and comprises their patent, cast-iron, spherical casing, placed vertically, enclosing the usual make of standard wheels, arranged, however, for a horizontal shaft. The wheel discharges only in one direction, parallel with the shaft, then turns downward through a curved pipe or draft tube.

James Leffel & Co. are building a very

large number and variety of styles on horizontal shafts, adapting them for every purpose and locality, and from the smallest powers under the lowest heads to the largest powers under the highest heads.

They have also one of their 23-inch standard wheels on upright shaft, made of brass, and a small 10-inch standard wheel, beautifully nickel-plated, on exhibition.

Besides their water wheels they have also one of their five horse-power horizontal engines mounted on one of their five horse-power steel boilers. They manufacture these engines and boilers from three horse-power upwards.

THE WALWORTH MANUFACTURING CO.

The Walworth Manufacturing Co., 16 Oliver street, Boston; 54 Gold street, New York, is located in machinery hall, column O, 26 and 27. Its main exhibit consists in part of brass and iron goods for steam, water and gas, also engine and boiler trimmings in great variety, including steam-fitters' tools and supplies, such as die stocks and pipe cutters, taps and reamers and pipe wrenches for iron and brass pipe. In the larger brass goods and iron fittings it shows a fine line of the modern gate and open-way valves for high steam pressures, also angle and globe valves of the most approved design, including a line of long-turn tees, angle and offset fittings. All of these shelf goods and tools are enclosed in a large vertical cabinet of beautiful design and proportions, the four panels being covered with plate-glass windows and lighted from above with electric lamps. Besides the small goods referred to, the company has an exhibit of its celebrated automatic link sprinklers, valves and fittings for the protection of buildings from fire. It also shows a new and practical device or tool for tapping a water main under pressure. In the way of larger goods the company shows the improved Mills cast-iron safety sectional boiler, and marking the outlines of the larger exhibit are four of its wrought-iron electrical railway poles. It also has in the electrical building some fifty of these railway and light poles in joint exhibit with the General Electric Co. The company is represented by John H. Mills.

AMERICAN FIRE ENGINE CO.

The exhibit of the American Fire Engine Co., Seneca Falls, N. Y., and Cincinnati, Ohio, is located at section 8, column A, 45 and 46, machinery hall, and comprises not only the engines, apparatus and tools within its space in machinery hall, but also four steam fire engines actually in service in the World's Fair fire department. Of these three are of the "Ahrens" pattern with the circulating coil or "Latta" boilers, and to give an idea of the popularity of these machines it may be stated that Chicago uses sixty-five of them and St. Louis forty-two. The fourth is something entirely new, being a small "Ahrens" engine fitted with a hose box for carrying 700 feet of regulation hose; this is called the "Columbian" pattern, and, although only designed this present year, there are now eight of them sold, and they are considered excellently adapted for city suburbs.

In the company's space in machinery hall is a "Clapp & Jones" pattern steam fire engine of 6600 pounds weight and 800 gallons capacity per minute. This is a double pump piston machine with a coil tube boiler; it is used very extensively in most of our American cities, and is highly regarded in the New York department. Another noteworthy engine which this company has on exhibition is a "Silsby Rotary" weighing 6100 pounds and guaranteed to throw 700 gallons of water a minute. Both the engine and pumps of this machine are on the rotary principle, which meets with such favor among firemen that there are now about 1100 Silsby engines in use. For the officials of the smaller towns and villages the company exhibits a 3200-pound machine of the

"Button" pattern, the capacity of which is 300 gallons per minute, and being of light draft no horses would be required to take it to a fire. Besides the steamers the company shows two large fire pumps, two steam heaters, a racing hose cart with pneumatic tires, and a large case of tools and supplies for the fire service generally. The exhibit is in charge of H. W. Bringham.

AMERICAN BOX MACHINE CO.

There is one exhibit in machinery hall that is very interesting to the general public. It is the making of paper boxes by machinery. This was all done by hand until the last ten years, when the change from hand to machine work has grown to be almost universal, making the box cheaper and better by economy in space and material.

The American Box Machine Co. was the first to get out and introduce to the public the machinery for making paper boxes, and its machinery is nearly all automatic, strengthening the corners with cloth and pasting the several colors together and uniting them on the box all at the same time. It is just introducing machinery for making fine jewelry boxes and also for making round-cornered boxes. There is in operation a new machine which takes the paper in the roll and cuts and forms it into shape and fastens it together, making the box all completely finished when it leaves the machine. This machine is intended for making boxes for putting up all kinds of hardware. The industry of making paper boxes is interesting to the public for the reason that nearly all kinds of manufactured goods are being put up in paper boxes, and the trade and demand for them is growing very fast. The cheaper and better they can be made the more they can be used. The exhibit is in machinery hall—38, Q—and the home factory at Amsterdam, N. Y. The branch office is at 430 West Thirteenth street, New York. These machines can be seen in active operation at any time, being in use for making paper boxes for use on the fair grounds.

STERLING-MOREAN PERCUSSION HAND DRILL.

The inventors of the Sterling-Morean percussion hand drill have on exhibition several of their machines intended for mining work. The machine is a percussion drill, and consists mainly of a hollow shell, at the forward end of which is secured a rotary spindle adapted to hold the drill in combination with a pair of hammers mounted on a frame pivoted at the other extreme end of the shell. In the interval of time between the alternate blows of the hammers the drill is made to rotate a fraction of the circle, then comes to rest to receive the blow. The combined action of the hammers driven violently forward against the head of the drill and the rotation of the same result in a circular chipping or drilling of the rock. The feeding forward of the machine while in operation is entirely automatic, adapting itself accurately, by a very simple and ingenious arrangement, to all kinds of rock, regardless of variations in hardness or texture, so that all the operator has to do is to turn the shaft cranks. One size of machine only is built. Its weight is seventy-five pounds, not including the weight of the tripod or column on which it is mounted. Its capacity when drilling a hole one and a-quarter inches in diameter is three-eighths to one-half inch a minute in granite, one inch in limestone and two to two and a-half inches in sandstone. This capacity is made when the cranks are turned eighty revolutions per minute. The length of feed is twelve inches, and the drill is capable of putting holes down to a depth of four feet.

MOORE CARVING MACHINE CO.

The Italians have the finest display of wood carving at the World's Fair, but what interests an American is how he can manu-

facture it at a price his customers can afford to pay. In the woodworking department of machinery hall, section 14, column G, 34, between the Disston and Atkins saw exhibit, is a simple machine which attracts as much attention as any other display of woodworking machinery, principally because it is actually reproducing the finest as well as all classes of hand carving by a machine, and four pieces at one time. The machine referred to is the well-known Moore four-cutter carving machine manufactured in Minneapolis, Minn. The machine has been very well accepted by the manufacturers of furniture, interior finish, drug-store and bar fixtures, pianos, organs, statuary, images, pulpits, altars, etc.; in fact, there has been sold nearly 500 machines in the past few years. Twenty-two machines are in one factory. What interests a sightseer of a mechanical turn of mind is to watch these people reproduce a carving that costs \$50.00 to carve by hand for \$1.25 each. By the use of a carving machine and retouching it by hand a more regular grade of carving is secured than can be produced entirely by hand. This company has recently perfected centres with double adjustable tables attached, which enables it to do all kinds of under-cut work. It uses for patterns plaster of paris, paper-mache, or carve the first piece by hand and use it for pattern to reproduce the balance of the work.

THE CANTON STEEL ROOFING CO.

The Canton Steel Roofing Co., Canton, Ohio, exhibits its iron and steel building materials in section H, manufactures building, and displays a fine line of goods, so arranged that people interested in this line can at a glance form an idea of the goods they manufacture. The booth occupied by the exhibit is erected exclusively of goods of the company's manufacture, and so designed as to fully develop the finished appearance which its goods always have. Mr. H. G. Bow, the oldest traveling salesman with the company, who has charge of the exhibit, reports a very nice trade and numerous enquiries.

GREENLEE BROS. & CO.

The firm of Greenlee Bros. & Co., Chicago, have an exhibit located on three aisles and quite different from other exhibits. It is enclosed by an oak railing, the entire exhibit being raised from the main floor and floored with hard wood. In the centre of the exhibit is a handsome pavilion of quarter-sawn oak with tapestries, where they have all the conveniences of an office in the way of stenographer, desks, etc.

Their exhibit consists mainly of special machinery for carbuilding, and nearly all the machines are entirely new, being of recent design and notably original. They have a line of hollow-chisel mortising machines, from their small sash-mortising machine, which is so generally in use in sash and door factories, to the large vertical automatic mortising machine which has a traveling bed the length of the side sill of cars. This last-named machine will make a mortise in any hardwood forty times per minute, two and a-half inches square.

A very unique machine is their double-compound automatic mortising machine, which has four hollow chisels working at the same time controlled by one operator. The tools are placed in pairs and directly opposite to each other. The machine is made expressly for the mortising of door sills, and it will mortise two of these at once without any previous laying out or cleaning out of chips after leaving the machine. As a piece of mechanism this is a remarkable machine, owing to the fact that if required two pairs of chisels will feed directly up to each other, and when in near proximity one pair will retreat and the second pair will follow, thus mortising one wide stile or two narrow ones. Also

the bits of these machines are driven by gears operating at 5000 revolutions per minute, which is about double the speed it has been supposed that gears of this size are capable of running. This enormous speed is only possible because of the superior construction of the machine and the fact that one-half of the gears are fibre, the balance being of steel.

They also show a medium size hollow-chisel mortising machine for door work, which is now universally in use and which has been adopted by the United States government for its navy-yards. They have a line of five sizes of self-feed saw tables, of which they are the original introducers, their latest device on these machines being a live out-feed roll back of the saw.

Their double automatic cut-off machine has attracted a great deal of attention, owing to the fact that it will cut off two ends of a piece at one time, one operator handling both saws simultaneously by the use of a single treadle. The distance between the saws is regulated by power, which moves one machine along the iron bed.

In the line of boring machines they show two high-speed horizontal boring machines for car work, one being vertical and one horizontal. Owing to their superior construction and a patent device for supporting the end of the bit, these machines are run at a speed about double of that ordinarily expected of boring machines. Each spindle is adjusted by the use of levers instead of the old method of using screws, thus saving about one-half in time. In this exhibit all the machinery is in active operation, which renders it very interesting and instructive.

FIRE & WATER-PROOF CEMENT ROOFING CO.

The Fire & Water-Proof Cement Roofing Co., of Chicago, has an exhibition of its roofing in the manufactures building, section H, block 3, No. 103, in which is shown the patent roofing made from German Portland cement, asphaltum and other materials. The weight of this roofing is about one pound per square foot. It is put on by covering the rafters with boards and over them is placed tar or oil paper. Then hooks are driven in at intervals of from six to eighteen inches, projecting half an inch for flat roofs and one inch for steep roofs. Upon this the cement is laid and, from its nature, becomes very hard and solid, both water and fire proof. The material has been highly recommended by architects who have examined it.

CLEVELAND TWIST DRILL CO.

The Cleveland Twist Drill Co., of Cleveland, Ohio, has an interesting display in section 29, machinery hall. This is a pavilion with a hollow square of glass cases showing a line of goods such as it usually carries in stock. The exhibit is very complete, and will attract the eye of anyone of a mechanical turn of mind.

P. H. & F. M. ROOTS CO.

The P. H. & F. M. Roots Co., of Connersville, Ind., has in section E, column 25, R, an extensive exhibit of its well-known blowers, among which are the following: One No. 7 positive blower, connected direct to 13x12 vertical engine, all combined on same heavy iron bed-plate, capacity to melt twenty-three tons of iron per hour; one No. 6 high-pressure blower, connected direct to 16x18 horizontal engine, all combined on heavy iron bed-plate—this machine is capable of sustaining twelve pounds pressure per square inch. One No. 8 rotary pump, capacity 4000 gallons per minute—this machine is being used very largely in the West for mining and irrigation purposes; one No. 2 positive pressure blower; one No. 5 improved rotary gas exhauster, connected direct to 6½x7 vertical engine, all com-

bined on same heavy iron bed-plate—this machine is fitted up complete with gas valves, automatic bye-pass and automatic gas governor, capacity 62,400 cubic feet per hour; a full line of portable forges for light, general and heavy work, sizes from one to five, inclusive; one No. 3 Acme blower and one No. 3 Acme tuyere iron for blacksmiths. The company is represented by Ed. Harman.

HALL & BROWN WOODWORKING MACHINE CO.

The Hall & Brown Woodworking Machine Co., of St. Louis, Mo., manufacturers of woodworking machinery, occupy a space 30x50 feet at the extreme west end of the south main aisle in machinery hall annex, section 12, column F, 51. Here a number of its specialties are shown, among them two Mississippi planers and matchers, one No. 9 Hoo-Doo dimension planer, one improved 10-inch molder, one improved seven-inch molder, one self-feed saw table, one 36-inch resaw, one 36-inch band saw, one automatic double-box cut-off saw, one double-spindle shaper, one door, sash and blind tenoner, one 12-inch hand planer or jointer, one variety or combination saw machine, one automatic knife grinder and one woodturning lathe. John F. Judd is in charge of the exhibit.

NEWMAN CLOCK & MANUFACTURING CO.

The location of the exhibit of the Newman Clock & Manufacturing Co., of Chicago, has been changed to the gallery of the electricity building close to the elevators. A diamond-shaped partition has been erected, on each side of which is the exhibit of watchman's clocks of various styles. This company has supplied watch-clocks to all the German exhibits in all the buildings, including the German building, eighty-four private watchmen being employed. Watch-clocks have also been supplied to the exhibits of Denmark and Belgium. It will pay visitors to look up the Newman hotel guest-call, from which can be ordered anything from a shine to a cocktail.

CANEDY-OTTO MANUFACTURING CO.

Canedy-Otto Manufacturing Co. has a full line of its forges, blowers and screw plates on exhibition in machinery hall, column I, Nos. 38 and 39. The works are situated at Chicago Heights, Ill., a suburb to the city of Chicago. The blacksmiths' blowers have solid steel frames, brass bearings throughout, and their compound lever steel friction clutch is a decided improvement. The forge has all the improvements of the blowers and are excellent in neatness. The No. 1 blacksmith's forge is one of the largest portable forges in the world. The Ever Ready screw-plate has many improvements, having a stock for every die, the stock made proportionate in size with the size of bolt the die is to cut. The dies are each threaded into its stock, and are so substantially held in place that it could hardly be placed in any position by which it would cut an imperfect thread. Taking out and putting in, screwing up and unscrewing and cleaning the cuttings and grease from dies is all unnecessary work. None of it has to be done with the Ever Ready.

JAMES BOYD.

James Boyd, of St. Paul, Minn., exhibits three kinds of hoists—man, horse and steam-power—the latter arranged to work automatically and kept constantly in motion for from six to eight and sometimes ten hours in a day lifting the cages (on which were full-sized wheelbarrows) alternately some fifty feet, making a very attractive show. Mr. Boyd has reduced the making of building material elevators to a science, as he was originally a contractor and builder, and quickly adapted any new and convenient methods that presented themselves whereby labor, time and money could be saved. The strong points are simplicity and durability, and it has been

a constant aim to keep these points in view in all the various advances made along the line of frequent improvements. The hoisting engine is one of the most compact pieces of machinery of the kind made, and has some special features adapted from time to time. The elevators are made of malleable iron and are very light, strong and durable. The extensions are of Swedish iron, pliable rope and connected gas pipe, with facilities for bracing and making very secure for high buildings. The Duplex horse-power hoist has two movements for slow and fast motion, light and heavy loads, and is amply provided with brake for lowering away the load, and although the machine is very heavy, it is also compact and well-arranged for moving from one place to another. The exhibit is in charge of Mr. G. W. Alexander, column J, 31 and 32 machinery hall.

F. C. AUSTIN MANUFACTURING CO.

In the southern part of the agricultural building annex, near column E E, 11, is situated the exhibit of the F. C. Austin Manufacturing Co., of Chicago. It shows there the Austin No. 2 portable rock-drilling machine. This machine is designed for drilling in rock and other formations to a depth of 500 feet. It is a very popular driller among well-men. It has been on the market now for the past six or eight years, and during that time many hundred of them have been sold in different parts of the country. An important feature in the machine is the shape of the cam which operates the treadle. This cam is semi-circular in form and its two sections are divided. The shape of it prevents any blow being struck on the treadle when the two come in contact, which enables the machine to run very easily. The fact of its being divided permits of the placing of the treadle pulley, over which the rope passes, most remote from the pivotal point, so that a long drop can be given to the drill with the least expenditure of power. From the general construction of the machine fifty-five to sixty drops per minute can be given to the drill. This, in connection with the freedom of the drop, enables the machine to do very effective and rapid work. There is a piece of six-inch pipe sunk a few feet into the ground, representing a well, and the machine is connected by a belt with a line shaft and put in motion, so that all the operations of drilling, sand pumping, hoisting and lowering the drill can be practically demonstrated. This machine is intended to be operated by either horse or steam-power. The F. C. Austin Manufacturing Co. also shows the same machine with an engine mounted on the same trucks, which, on account of its compactness, commends itself to drillers, but in hilly countries, where it is desirable to keep the weight of the load down as much as possible, it is desirable that the engine be mounted on separate trucks. It also shows in operation its new style all-steel jetting machine. This machine is provided with two powerful pumps, working alternately, which force a current of water down the hollow rods. The water coming in contact with the surface to be drilled enables the bit to cut very rapidly, and delivers the earth at the surface of the ground while the drilling is going on without occasioning the waste of time necessary in sand pumping. The machine is also provided with an air chamber, which relieves the pressure from the hose. In this exhibit is also displayed a No. 9 Austin feed cutter for hand use and a No. 17, large size, for power use. These feed cutters embrace all the latest improvements and are very extensively used, particularly in the dairying districts of Wisconsin and Illinois. There is an artistically designed feed mill, with samples of the burrs, and the Austin people claim that the peculiar dress of their burrs,

or grinding plates, and the fact that they run rigidly in regard to each other, make the mills very long lasting. It also has a mill for grinding corn and cob together, so arranged that corn can be ground alone, or corn and cob, and oats can be added at the same time and ground with them. Some stock-growers claim that the presence of the cob in connection with the corn assists digestion, and that the animal derives greater benefit from meal that is ground than otherwise. There is also shown by this company a very neat portable steam generator or farm boiler, used extensively in northern latitudes for warming water and scalding feed, in the southern districts for sweating tobacco; also for bath-room and many other purposes.

THE CHAMPION IRON CO.

The Champion Iron Co., of Kenton, Ohio, has an exhibit located at section H, block 3, northwest corner manufactures building. This is an institution of long standing, having its inception in the manufacturing of iron fence. Since then it has added branch after branch, and today is one of the most extensive manufacturers of iron fence (plain and ornamental), iron stairs, structural iron work of all kinds, jail work, as well as specialties, such as chairs, lamp-posts, settees, veranda columns, tree guards, malleable crestings, weather vanes, veranda railings, cemetery entrances, fire-escapes, shutters, gratings, window sashes and window guards. This company has a fine display, and when visiting the fair it will repay anyone to look it up.

DODGE MANUFACTURING CO.

In the power transmission group the display of the Dodge Manufacturing Co. is prominent and complete, covering Dodge pulleys in all styles, shapes and sizes, friction clutches, floor stands, hangers, jam clutches, collars, links, etc. The process of construction of the wood pulleys and bushings is shown plainly by sections and pieces taken from the machines at the different stages of manufacture. The illustration conveys a correct idea of the advantages of this style of pulley, and impresses one with the conviction of absolute accuracy in the dimensions and fit of the bushings. The wood-rim pulley, with iron hub and spokes, for dynamo, saw mill and other heavy work, attracts much attention. Samples large and small, of both the split and solid patterns, are shown. A friction clutch of 200 horse-power, equipped with one of these pulleys fifty inches in diameter and 24-inch face, rigged on heavy floor stands, fitted with a quill and with a very convenient and tastefully-designed apparatus for engaging the clutch, is one of the noticeable features of the exhibit. Another clutch pulley of smaller capacity is mounted on the opposite side of the space. A more practical exhibit of the company's goods is furnished by the mile or more of line shafting, with hangers, pillow blocks and full equipment, running the full length of machinery hall and annex, and by the large number of Dodge pulleys to be seen on exhibitors' countershafting.

H. W. JOHNS MANUFACTURING CO.

The H. W. Johns Manufacturing Co., of New York, has six exhibits in four of the main buildings. The exhibit of its electrical department is in the southwest gallery of the electrical building. In the manufactures building the company's paints are shown in a handsome Moorish structure in section H. Not far from here is the general exhibit, comprising the various asbestos materials, vulcabeston, roofing and other goods manufactured by the H. W. Johns Manufacturing Co. This space is partially surrounded by a white colonnade, which may be seen at some distance.

In the mines and mining building are two exhibits. The principal one is on the ground floor near the centre, in the north-

central section, near several of the State exhibits, and shows machinery in motion, illustrating the process of manufacturing asbestos from its crude state to its finished products. Various asbestos fabrics are shown, conspicuous among which is a handsome asbestos curtain, hanging at the eastern end of the space. The other asbestos exhibit is not far off, in the gallery on the western side of the building, column 11, section T, and consists of a large case containing samples of asbestos ores from all quarters of the globe. This is a very complete collection, containing many rare and interesting specimens.

The sixth exhibit is in machinery hall, and illustrates the company's steam-pipe covering. The steam pipes to more than fifty engines, the connecting pipes at the long battery of boilers, the main steam pipe and branches, and many minor connections throughout the building are covered with molded sectional coverings.

SMITH-HILL FOUNDRY & MACHINE CO.

The exhibit of the Smith-Hill Foundry & Machine Co., of Quincy, Ill., located in the transportation building, section C, 7, consists of one direct connected high-speed electric passenger elevator operated by a slow-speed reversible Thomson-Houston motor, with railroad rheostat. The builders claim that with its lever device this is the simplest and most easily operated electric elevator on exhibit. They also have a freight elevator of 2500 pounds capacity operated by a five horse-power continuous running motor, which operates as smoothly as any hydraulic elevator, and will easily carry 2500 pounds at the rate of sixty feet per minute with a five horse-power electric motor.

THE BOSTON BELTING CO.

The Boston Belting Co., of Boston, Mass., has a very complete exhibit of its mechanical rubber goods in machinery hall, section 15, column J, 27. W. C. Koeline is in charge.

THE ROHLMANN MANUFACTURING CO.

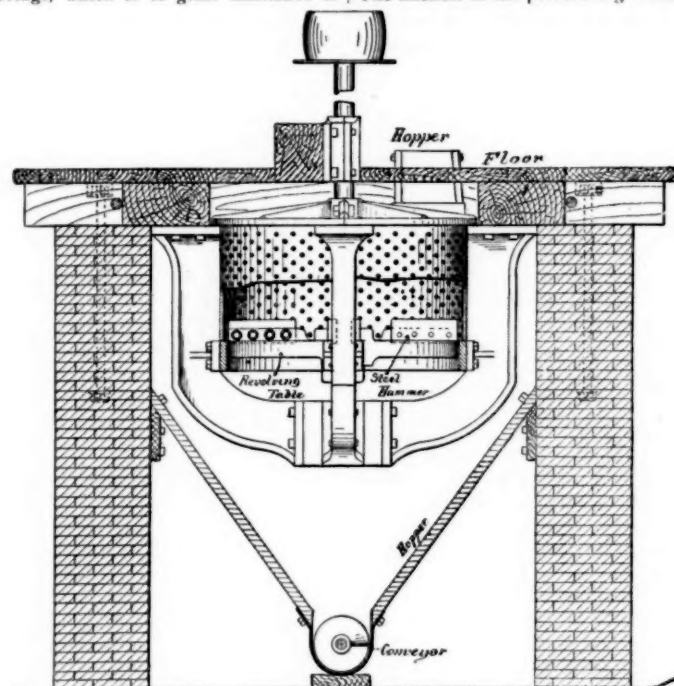
Located in machinery hall, section 14, column F, 32 and 33, there is a very interesting exhibit of woodcarving machinery manufactured by the Rohlmann Manufacturing Co., St. Joseph, Mo. The machine is built from new designs and embraces many important improvements. It is very strong and substantial, yet not cumbersome in working, but is easily handled and convenient of adjustment. It is a useful tool for furniture factories, car, organ and piano factories and other woodworking establishments where woodcarving is done. The machine will carve four duplicate pieces at one operation. The bits can be handled conveniently and in any direction within an angle of thirty degrees. The top or table can be raised or lowered to make thick or thin work, and remain the proper height for the operation. The table also rests upon sliding ways, so that it can be adjusted for the convenience of the operator on different varieties of work.

The machine will carve most any kind of ornamental work without any extra attachments upon the table, as the cutters are so arranged that they can be carried in any direction, and will cut under at an angle of about thirty degrees, which is more than is required for ordinary work. In case of full-size heads, or if similar work is desired, they furnish a reversible top or attachment for this purpose. There is a great variety of work that can be finished on the machine, such as heads with hair and many other articles which do not require an absolutely smooth surface—smooth work or flat surfaces would require to be sand-papered. In case the inside of a square is desired to be worked, of course the corners will be left round, the same size as the bit, and if wanted sharp must be finished by hand, but the outside corners

of the square can be finished perfectly square and sharp. Work similar to raised panels can be accomplished on the machine with suitable bits, and will leave the edge perfectly smooth. By a recently-improved and original device all chips and dust accumulating are blown from the carvings, which is of great assistance to

egrated at a rate due to 4000 to 6000 shattering blows from the hammers per minute, each blow more than 500 times as powerful as heavy sledge-hammer blows.

The capacity of the machine varies from fifty tons per day on green bone to 300 tons per day on more friable materials. The fineness of the product is governed by



THE MAGIC CRUSHER—SECTIONAL VIEW.

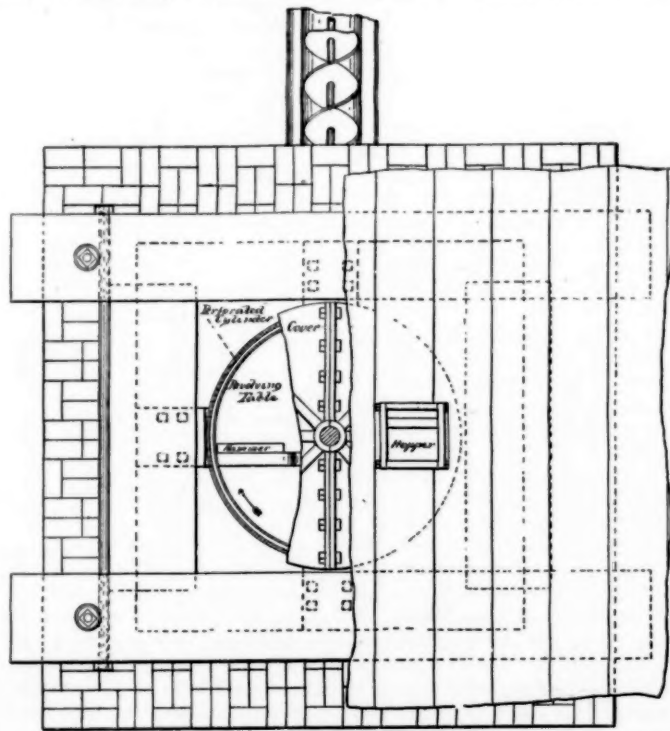
the operator. The company's representative, Charles W. West, is always ready to exhibit the machine to visitors.

The Magic Crusher.

We illustrate on this page the Magic crusher which reduces rocks, ores, bones, rock asphalt, etc., to any grade desired, from that of sand to that of very coarse gravel. It takes the place, for fine crush-

the perforations in the steel cylinder, which may be from one-quarter inch to one and a-half inch diameter. In the smaller diameters these holes are enlarged outwardly for free discharge of the material.

The wear on the steel cylinder is mostly upon its lower part. It may be reversed (turned upside down) when much worn, thus doubling its durability. The steel hammers wear mostly upon the outer upper



THE MAGIC CRUSHER—PLAN.

ing, of jaw crushers, roller crushers, etc., doing the work at one operation at reduced cost. It consists of a revolving table forty-two or forty-eight inches diameter with steel hammers attached, placed upon a vertical shaft and surrounded by a perforated casing within which it revolves, and through which the crushed material is discharged. The material entering the hopper through the iron cover is disin-

surface, and are easily reversed end for end and upside down, thus securing four wearing surfaces. They are renewed at small cost. The cost of wearing parts per thousand tons is about the same as on jaw crushers. On rock asphalt and many other materials it is merely nominal. These crushers are made and sold by Geo. T. McLauthlin & Co., 120 Fulton street, Boston, Mass.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department, on pages 52 and 53.]

Lumber Directory.

Readers of the MANUFACTURERS' RECORD who may be in the market for lumber of any description are recommended to the directory of Southern lumber manufacturers and dealers which appears among the advertising pages.

Southern Lumber Manufacturers' Association.

MEMPHIS, TENN., August 12.

The Southern Lumber Manufacturers' Association assembled here in semi-annual convention on the 9th inst. Delegates were present from Texas, Louisiana, Arkansas, Missouri, Mississippi, Alabama, Georgia and Florida. The first session opened at 10.30 A. M., and without much formality at once proceeded to business. President J. O. Freeman called the association to order; the secretary, M. W. Patillo, called the roll, when the following delegates answered to their names: J. F. Miles, Camden, Ark.; J. J. White, McComb City, Miss.; George H. Hyatt, Grandin, Mo.; A. A. Le Laurin, Pine Bluff, Ark.; F. L. Wagar, Wagar, Ala.; F. Kendall, Hebron, Ark.; George K. Smith, Dry Run, Ark.; G. W. Schwartz, A. Strauss, W. N. Banon, J. R. Best, St. Louis, Mo.; C. F. Patters, Ohio; W. I. Ewart, Gardon, Ark.; F. W. Williams, Meridian, Miss.; S. P. McConnell, Council Bluffs, Iowa; S. E. Christie, Jacksonville, Ill.

The president read his report, in which he defined the position of the secretary of the association, stating that he was an official inspector, an arbitrator, empowered to settle all differences between members and parties with whom they dealt. He suggested that the secretary be appointed a sort of general claim agent, empowered especially to settle with railroad companies. City inspection and its defects were discussed and the matter of insurance alluded to. Referring to the wage question the president said: "Ought we not, in justice to ourselves and our properties, make some reduction in our wage scale? I believe in well-paid labor, and would rejoice in ability to increase rather than to diminish its rewards, but in times like these laws of self-protection compel the most philanthropic to hesitate and consider." He ably discussed the question of decreased output, and concert of action either to shorten hours or shut down a certain amount of time was recommended. "If the demand for lumber is to continue in its present poor state for many weeks we are confronted with the question, Shall we continue to cut and pile lumber with risk of an overstock or shall we begin to curtail production? The present supply of lumber in shipping condition is not any too large, but if sales cannot be made it will require but a few weeks of full time to make them go." The session of Congress and the silver question were alluded to, and the appointment of a committee to formulate the association's views was recommended.

The secretary presented his report, which was an able and interesting document, full of matters of interest relating to the lumber trade and the working of the association.

The following special committee was appointed to consider and report on the telegram from the Arkansas association in reference to the repeal of the Sherman bill: George K. Smith, E. H. Deffabaugh and J. J. White. Other committees were appointed on grades and classification, price-lists, resolutions and inspection and claims. The convention then adjourned until 3 o'clock P. M.

At the afternoon session W. J. Ewart presented a paper on the advisability of further subdivision in the grades of yellow pine, recommending some radical changes.

An interesting discussion on the question followed, participated in by all present. The committee on grades then made its report, which was adopted, as follows:

Your committee would recommend no change in the present grades and classifications, but would suggest that the services of a competent grader be secured, whose duty it will be to visit all the manufacturers of our association for the purpose of inducing them to make their grades in conformity with association specifications, and said grader shall be under the direction of the president and board of directors.

The special committee on price-lists also made its report, which was adopted.

The committee on memorial to Congress presented its report, which, after discussion, was adopted by a rising vote of seven to two, as follows:

To the Honorable Congress of the United States, Now Assembled:
We, the Southern Lumber Manufacturers' Association, representing the yellow-pine industry of Missouri, Arkansas, Texas, Louisiana, Mississippi, Alabama, Georgia and Florida, beg

tion. Among the most important was that of the committee on claims and inspections, which, through its chairman, A. Strauss, presented report, which was unanimously adopted. The committee on curtailment of production, through its chairman, Mr. Strauss, presented a report, which was discussed and then adopted, as follows:

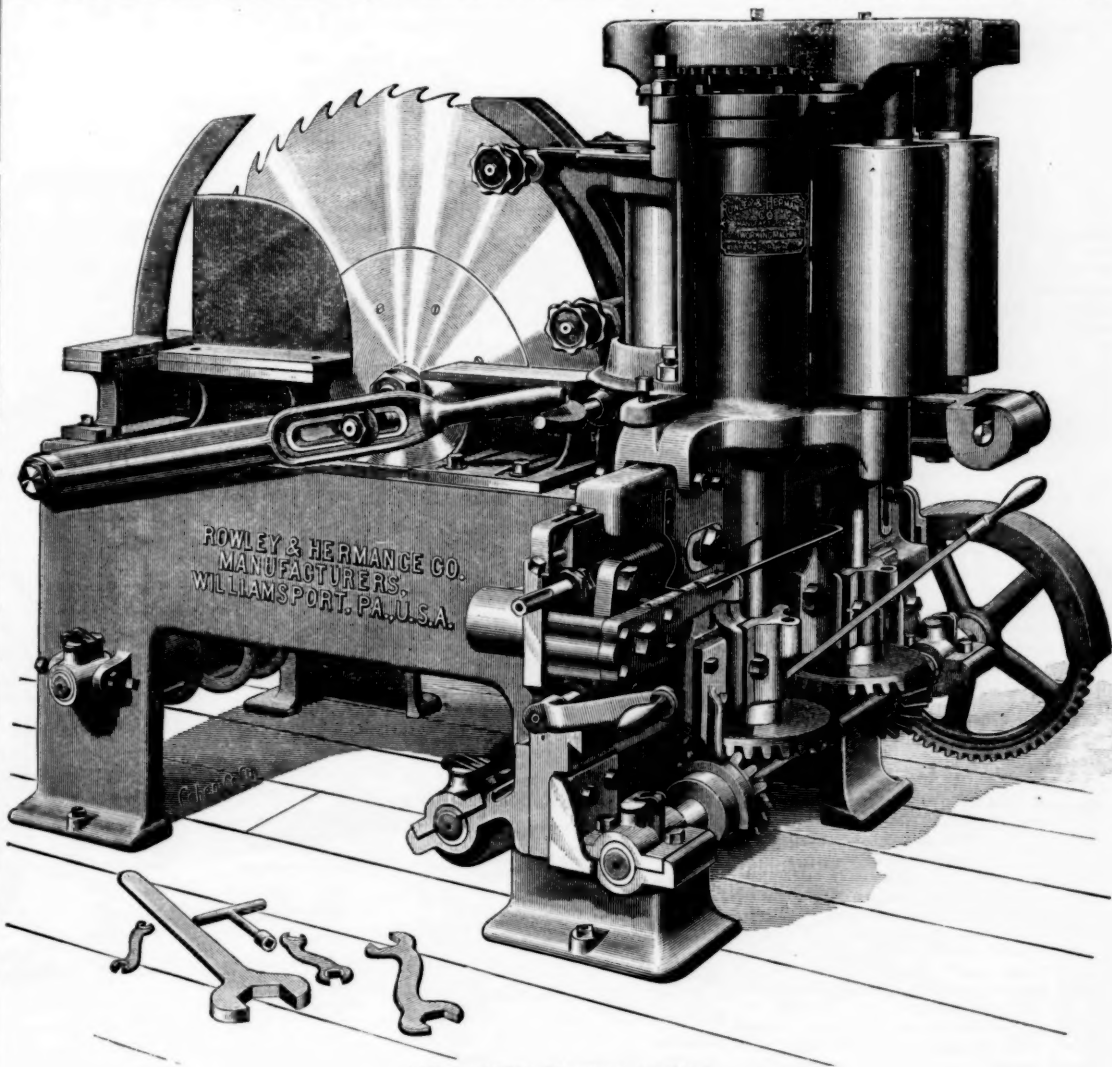
Inasmuch as the present stringency in financial circles has already reduced, and for a longer or shorter period in the future will probably reduce, the consumption of our product to a considerable extent below the average amounts called for in similar seasons in the past, there is but one manner in which to face the situation, viz, by curtailing our output by running our mills not to exceed half time for the next thirty days.

Treasurer George K. Smith read his report, which was discussed at length by the president and members. The association, having concluded its labors, adjourned to meet in this city on the second Wednesday in February, 1894.

received. Delcher's planing mill and Meeker's saw mill are both running and shipping lumber. The Buckeye cart factory will resume operations in several weeks.

New Champion Resawing Machine.

The accompanying cut represents a 38-inch new resawing machine built by Rowley & Hermance, Williamsport, Pa. The frame is very heavy. It is cast in one piece and is specially designed to rigidly support the working parts. The arbor is made of steel and is heavy. It overhangs the box next to the saw, which admits of the saw being easily removed. The saw-arbor boxes are connected by a heavy yoke and gibbed to the frame, and are moved to and from the rolls by means of a screw, keeping the saw always in line with them. The rolls move upon the platen in pairs and readily adjust themselves to unequal thickness of lumber and are perfectly self-centring. They open



NEW CHAMPION RESAWING MACHINE.

leave to memorialize your honorable body as follows:

Whereas, Our own business, in common with all other manufacturing industries, is languishing under the present conditions, which, we believe, have been brought about by that part of the Sherman act compelling the Secretary of the Treasury to purchase a stated amount of bullion monthly; and,

Whereas, The business public is demanding the repeal of this clause, we therefore add our petition to the many already made, and earnestly request that early action be taken by your honorable body toward the repeal of this clause.

The question of reduction of output was next taken up and the matter fully discussed as to the best step to be taken in getting good results. Messrs. Ewart, Smith and Strauss were appointed to draft a resolution expressing the sense of the meeting on cutting down production. The convention adjourned until 10 A. M. on the 10th inst.

At the second day's session there was considerable business before the conven-

Renewed Activity in West Virginia Lumber Industry.

All the saw and planing mills at Elk City and Charleston, W. Va., have been practically shut down since early in the spring, but there are signs that operations will commence at once on a large scale in this section. The large lumber manufactory of the Deverux Lumber Co. started up last week with a force of fifty men. It is the intention of the Deverux Company to run steadily from this time forward, provided financial depression does not become more serious than at present. The company is making shipments every day, and has 9000 logs, or 3,000,000 feet, in the river ready to be sawed. The company has also about 20,000,000 feet in Blue creek and Elk river ready to come down on the next log tide. The Roy Furniture Factory has started up with a full force of from seventy to eighty men to fill large orders lately

six inches, and an inch board may be cut from a four-inch plank. One pair of rolls may be made stationary and lumber of even thickness cut upon that side, and all inequalities in thickness be confined to the other side. The table upon which the lumber rests is very close to the rolls, which admits the sawing of narrow boards. The feed works are strong and reversible, and by a slight movement of the lever shown at front of machine the lumber may be run from the saw much more rapidly than it is fed to the saw. The feeding gears are large, strong and not liable to wear out nor break by hard service. The platen that supports the rolls turns upon a centre for sawing beveled siding, etc., and is regulated by a graduated index plate which can be conveniently seen by the operator. By means of a novel attachment the saw may be easily lifted out of the frame and kept suspended on a pin in the centre, thus avoiding the bending and

twisting of the teeth, which often occurs when the saw is rolled out in the usual way, as the teeth are very thin and the saw heavy. The saws are furnished either segment or solid plate and are ground taper to No. 16 gage unless otherwise ordered. The segment saw of large size will not buckle when hot, as the joints permit the expansion of the metal, and it will cut picture-frame backing as well as the thickest plank. The saw is filed and set and the machine thoroughly tested before leaving the works, and it is guaranteed to give entire satisfaction.

Large Self-Feeding Ripping Saw.

This is a powerful machine designed for ripping material into parallel strips for planing mills, furniture, wheel, wagon, buggy and piano factories, car, railway and locomotive shops, navy-yards, arsenals, etc. The frame of the machine is made of iron, with plate sides and ends heavily ribbed. The saw a bor is of steel, one and three-

78x38 inches and made either of iron or wood. It is connected to planed stands, on which it raises and lowers by a screw and bevel gears operated by hand wheel. The adjustment is parallel as well as vertical, so that the table always remains perfectly level. The section around the saw is made detachable so that heads for gaining, rabbetting, etc., or a series of saws for ripping several pieces at one time can be used.

The fence of the machine is long and has a movement across the face of the table by hand lever, which instantly releases, moves and locks it, or vice versa. An index gage shows the distance from the saw at which it is set. Friction rollers are placed in the table just before and after the saw to diminish the friction.

When desired a side roll and bevel fence attachment for making siding can be furnished. It can be set to any angle and any thickness. This machine, when fitted with this attachment, makes a most desira-

mill with attachments, consisting of planing and shingle machines, to that place, and cut lumber for the Charleston market.

SWAGERTY & EUBANKS' planing mill was destroyed by fire on the night of the 7th inst. The mill was a total loss, besides several thousand feet of dressed lumber. The value of the plant and lumber was \$5000 and insurance \$3000.

THE mills of the lumber company near Halls, in Tuscaloosa county, Ala., were destroyed by fire on the 8th inst. Loss \$15,000; insurance unknown.

THE steamer Dennis Simmons, from the Dennis Simmons Lumber Co., Astoria, Roanoke river, Captain I. W. Simmons, arrived in Norfolk last week with the largest load of shingles ever delivered in that port. The cargo consisted of 600,000 shingles.

THE Blackwater Lumber & Boom Co.'s property was sold at Davis, W. Va., a few days ago to W. H. Osterhout, who bid

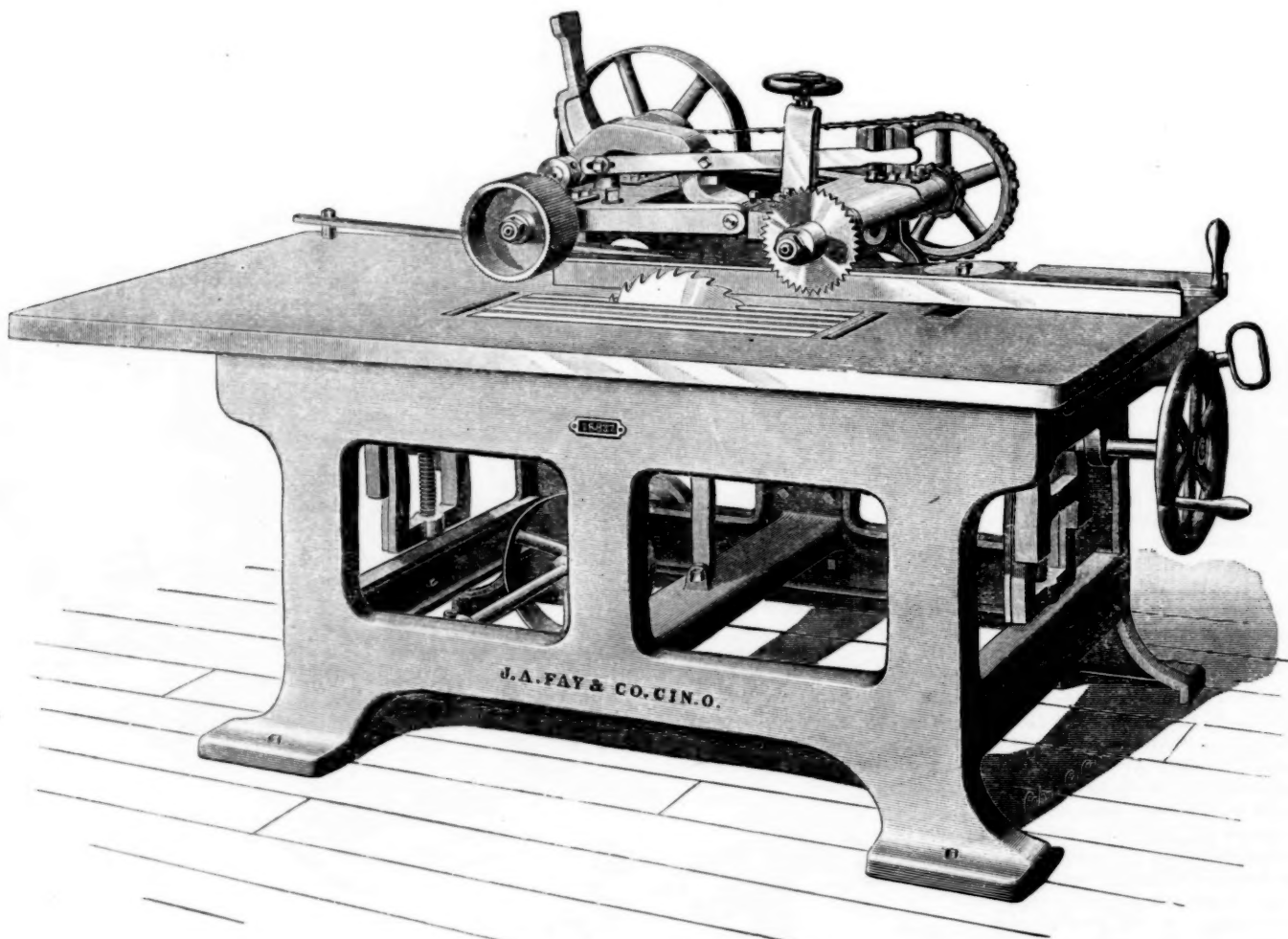
cleared for Boston with 312,000 feet of lumber, and the schooner Sarah A. Fuller cleared for Mantanzas, Cuba, with 384,962 feet of lumber.

THE schooner Bella Sara left Galveston, Texas, on the 10th inst. for Sabine Pass to load lumber for Tuxpan, Mexico. The cargo will be furnished by the Beaumont Lumber Co.

THE saw mill of Fleming & Sons, at Fleming's station, on the Trinity & Sabine road, was burned on the 10th inst. The planer and lumber were saved. Loss \$10,000, insured for \$3000.

THE tram saw mill at Beaumont shut down last week for two days to repair a break in the machinery. Sawing was resumed on the 10th inst. and everything is working smoothly.

THE Greenleaf-Johnson Co.'s saw mill at Norfolk shut down last week. The mill cuts about 40,000 feet per day and



LARGE SELF-FEEDING RIPPING SAW.

eighths inches in diameter where the saw is applied, and is mounted in long connected bearings in the inside of the frame, by which it is always retained in line. The end of the arbor is so constructed that several saws may be used at one time if desired. The arbor pulley is placed between bearings on the outside of the frame, allowing of belting in either direction. Saws up to twenty-two inches in diameter can be used, and machine will rip twenty-three and a-half inches wide.

The feed is exceptionally strong, consisting of a feed shaft and toothed disk for feeding and a shaft with either a fluted or smooth roll for discharging the material. These are mounted in a frame with adjustment for regulating the pressure on the material. The entire feeding mechanism can be lifted out of the way when it is desired to use the machine as a hand rip saw.

It has two speeds of feed, eighty-five feet and 115 feet per minute. The table is

ble siding saw for small shops who do not wish to have a separate machine for this purpose. The same attachment answers for light resawing, and is a very useful acquisition. This saw is designated No. 2½ by the makers, J. A. Fay & Co., Cincinnati, Ohio, U. S. A.

Southern Lumber Notes.

THE Litcher & Moore Lumber Co. at Orange, Texas, has recently put in another large power pump in case of fire, and is laying 4000 feet more of 4-inch cast pipe through the yards and about the mill.

A COMPLETE set of machinery for making barrel staves and heads is being put in position at the T. Bancroft & Sons' saw mill at Orange, Texas.

MR. A. M. MILLICAN, having recently purchased the Tate place in Orangeburg county, S. C., on the Harlem City branch of the Charleston, Sumpter & Northern Railroad, will at once move his large saw

\$72,500 subject to Mr. A. Thompson's "stocking contract" and \$110,000 independent of this contract. The mill at Davis is to be rebuilt at once. Frank E. Thompson has been selected as the general manager of the property.

NEARLY all the saw mills in the upper end of Hanover county, Va., have ceased active operations and are merely engaged in trying to save dead and drying timber by turning it into lumber. Saw-mill men have purchased large quantities of this timber and are sawing and yarding it to fill future orders.

A FIRE occurred at the New Basin, in New Orleans, on Friday last, by which about 60,000 feet of lumber and scantling was damaged to the amount of about \$500, with no insurance.

THE steamship Wellhaven cleared from Mobile on the 10th inst. for Bluefields, Nicaragua, with a cargo of timber and lumber; the schooner John C. Smith

employs a large number of hands. The Tunis Lumber Co., of Norfolk, is working its mills on half time.

THE contractors of the jetty works at Sabine Pass expect to complete the first cut by the dredge on the 1st of September, which will give a depth at mean low tide of seventeen feet.

WHITFIELD & Co., lumbermen, contractors and builders, have suspended business for the present. Their mill is at Rock Springs, Fla., on Silver Springs, Ocala & Gulf Railroad.

MESSRS. HYER, Fontaine and others have just completed a new steam saw mill on the west bank of the Hillsborough river, near the Gaddis ford, Fla. The lumber will be floated down the river to Tampa.

THE steamship Cherokee, from Jacksonville, Fla., to New York city, included in its freight on the last trip 4000 crossties, 150,000 shingles and 430,000 feet of lumber.

AN important decision has been filed in Milwaukee by Judge Seamans, of the United States Circuit Court, in the suit brought by the Edison General Electric Co. against the Electric Manufacturing Co., of Oconto, Wis., upon the Edison incandescent lamp patent. The suit in which the decision was rendered was brought against the Oconto company for infringement of the Edison patent by manufacturing and selling incandescent electric lamps, and the decision grants an injunction against the Oconto company, restraining it from any further manufacture and sale of such lamps. The decision of Judge Seamans is in line with the decisions of Judges Wallace, Shipman and Lacombe, of the second circuit, and of Judge Colt, of the Massachusetts circuit, and acquires especial significance and importance in view of the fact that the validity of the Edison patent was attacked by the defendant through what has become known as the alleged "Goebel anticipation." The issue of the injunction is a finding by the court against the Goebel defense. The argument of the motion consumed an entire week at Milwaukee, and the vast interests at stake have caused the decision to be awaited with unusual interest.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

* Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

✶ In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Anniston—Iron Furnace.—Preparations are being made to stock up the old Woodstock furnace with the intention of putting it in blast at an early date.

Cuba—Saw Mill.—John A. Martin intends to rebuild the saw mill that was destroyed by fire several weeks ago.

Eufaula—Cotton Mill.—The erection of another cotton mill in Columbia is being seriously considered, and correspondence with parties experienced in building water-power cotton factories is wanted by John T. Davis.

Hull—Lumber Mills.—The Tuscaloosa Lumber Co. will rebuild its mills reported in this issue as burned. The plant was valued at \$15,000.

Maylene—Dry Kilns.—The Monarch Lumber Co. will at once rebuild its dry kilns reported in this issue as burned.

ARKANSAS.

Greenwood—Coal Mines.—Articles of incorporation of the Sebastian Coal, Mining & Manufacturing Co. have been filed, the following being named as its officers: Thomas H. Jones, president; Thomas M. Jones, vice-president; David F. Davis, secretary, and Richard J. Protheroe, treasurer. Extensive mining operations will be carried on in Sebastian county. The company's capital is \$15,000.

Little Rock—Bridge.—The bridge to be built by Pulaski county across the Arkansas river will be 1080½ feet long and consist of six spans. Included in the work will be a wall of masonry 100 feet long, 294 feet of iron trestle and a channel span of 350 feet. H. G. Fleming is engineer.

Little Rock—Mining.—Articles of association of the Daisy Dell Mining Co., of Pulaski county, have been filed. The incorporators named are Robert K. Piken, Willie Ferrier and John B. Jones, and the capital stock is placed at \$10,000.

FLORIDA.

Barlow—Phosphate Mines.—A number of New York parties have bought 600 acres of phosphate land near Barlow from the Alafia River Phosphate Co. The transaction was made through E. C. Stuart, and the price paid per acre is given as \$44.00. Operations in active mining and shipping will soon be commenced, the Palmetto Phosphate Co. having already been formed for the purpose. W. Goodwin, F. Swift, J. H. Cottman, Robert Rasin and others compose this concern, and contracts for complete equipment have been awarded.

Key West—Cannery.—John F. Horr & Co. will improve their cannery by the addition of a Hall patent process kettle. Order for it has been placed.

Mt. Dora—Lumber Mills.—The C. E. Tufts Lumber Co. has been incorporated for the purpose of transacting a general milling and lumber business with a capital stock of \$50,000. C. E. Tufts, of Philadelphia, Pa., is treasurer and secretary, and these two, together with F. E. Muller, of Markham, form the directorate for the first year.

Palatka—Lumber Mill.—The Wilson Cypress Co. will extensively improve its mill. Four cylinder boilers will be put in and a new 150 horse-power engine. The mill building is to be considerably enlarged and a new carriage built.

Palatka—Planing Mill and Sash Factory.—N. J. Tilghman & Sons contemplate erecting a planing mill and sash factory, and will very probably decide definitely to commence work on same by October 1.

Port Tampa—Printing Plant.—The L. Graham

Printing Co. has been organized to print all the circular and other matter for the Louisiana Lottery. It will have a complete plant equipped with all the necessary machinery and printing supplies.

Stanton—Fruit Cultivation.—A stock company has been formed with a capital of \$150,000 and purchased the orange grove of Fred Buffum at Stanton, Lake Weir. Mr. Buffum is president of the company.

GEORGIA.

Americus—Steam Laundry.—W. C. Carter has purchased the Americus Steam Laundry and will continue its operation.

Atlanta—Plumbing, etc., Company.—J. A. G. Beach, M. A. Beach, Ollie Wingate and A. R. Butcher have filed a petition for a charter for the Atlanta Plumbing Co. The object of the concern is to transact a plumbing, gas and steam-fitting business, the capital stock being placed at \$5000, with privilege of increasing to \$25,000.

Augusta—Water Supply.—The city council has appointed a committee to consider the best means of obtaining a better supply of drinking water for the city. For information address the mayor.

Kramer—Dry-kiln.—The Gress Lumber Co. will erect a new dry-kiln to replace the one reported as burned.

Macon—Dry Goods, etc.—A petition has been filed for the incorporation of the firm of Borden, Smith & Co., dealers in dry goods, etc. The incorporators named are Richard F. Borden, Peyton R. Smith, Freeman Polhill, Richard C. Jones and A. J. Colbert, and the capital stock is placed at \$25,000, fully paid in.

Macon—Sewerage System.—Samuel Gray, of Providence, R. I., is preparing plans for the proposed sewerage system at Macon. It is expected three years will be required to complete the work. About thirty miles of sewers will be constructed to cost from \$6000 to \$6500 per mile.

Montreal—Planing Mill.—William Tuxworth has ordered full complement of machinery for his new planing mill, and it is now on its way to Montreal. Operations will soon be commenced.

Pitts—Saw Mill.—The Enterprise Lumber Co., of Atlanta, intends to erect a fine sawing plant at Pitts and has commenced its erection.

Ringgold—Saw Mill.—C. A. Carlock has purchased and will operate the Brooker Saw Mill.

Rockmart—Flour Mill.—The flour mill of N. Cochran & Son, recently destroyed by fire, will soon be rebuilt.

KENTUCKY.

Benton—Saw Mill.—J. F. Burkholder's saw-mill plant, lately reported as destroyed by fire, will soon be rebuilt.

Greenville—Brick Works.—T. J. Tinsley writes us that he intends to put in a brick-making plant next spring.

Irma—Saw Mill.—A party from Indiana has located a sawing plant on the Kentucky river at Irma.

Irma—Saw Mill.—Judge Ingell, of Ravenna, Ohio, has purchased 1600 acres of timber land near Irma from C. E. Smith. A fine sawing plant for cutting the timber will be erected at once.

Madisonville—Newspaper Plant.—The Madison Hustler is about to erect a new building for its publishing plant. Bids are now being received.

Madisonville—Jeans Factory.—Pritchett & Pritchett have equipped a plant for the manufacture of Kentucky jeans and are now engaged in weaving.

Middlesborough—Coal Mines.—The Mingo Mountain Coal & Coke Co. has put in a new revolving screen at coal mine No. 2.

LOUISIANA.

Baton Rouge—Cooperage Works.—A. J. Cranor is inspecting sites in Baton Rouge with the view of establishing a cooperage works at this point. He operates a large plant at Winchester, Ind.

Crowley—Rice Mill.—The Star Rice Mill Co.'s new plant is rapidly nearing completion, work being now pushed on setting up the outfit of machinery. Operations will commence in a week or so.

New Orleans—Furniture Factory.—The T. Dumas Co. has been incorporated to manufacture and deal in furniture, merchandise, etc. The capital stock is \$75,000.

New Orleans—Grain Elevator.—The Yazoo & Mississippi Valley Railroad will soon commence to erect a grain elevator, which it is estimated will cost \$54,000.

New Orleans—Levee Work.—The levee work to be done during the coming year calls for the removal of about 300,000 cubic feet of earth in building and enlarging. The State will expend \$60,000 on it. Major Richardson, of the board of State engineers, will give information.

New Orleans—Rice Mill.—The American Rice Milling Co., Limited, has been incorporated for the purpose of milling and dealing in rice, etc. The incorporators are John Prochaska, Geo. W.

Boutcher and Geo. B. Prochaska, and the capital stock is placed at \$25,000.

New Orleans—Candy Manufacturing.—Charles P. Dielmann & Co., Limited, have been incorporated with \$10,500 capital for manufacturing candies, etc. Chas. P. Dielmann is president; Wm. A. Phelps, vice-president, and Ashton Phelps, treasurer.

New Orleans.—The Turkish Bath Co. has been incorporated to conduct baths, etc., with a capital stock of \$100,000.

MARYLAND.

Baltimore—Bridge.—The City & Suburban Railway Co., Nelson Perin, president, is receiving bids for a viaduct to be built across Jones's falls, 1100 feet long, for electric cars.

Baltimore—Electric-light and Power Plant.—A meeting was held this week at the office of R. Jerome Aiken, 232 St. Paul street, to organize the Domestic Light & Power Co. of Baltimore City. The meeting was attended by a number of persons from Baltimore and Washington, and the capital stock of \$50,000, with which it is proposed to start the company, was subscribed. Another meeting will be held soon for the election of officers. The company proposes to furnish electrical equipment for incandescent lighting and for the operation of machinery of one horse-power and less.

Northeast—Kaolin Mines.—A party of Baltimore capitalists have purchased the old Hanna kaolin property at Brood creek and will operate it on an extensive scale. N. M. Rittenhouse and Wm. F. Parr are interested.

Northeast—Rolling Mills.—The McCullough Iron Co.'s plant has partially resumed operations, and next week the entire works will be put in operation. Over 300 men will be employed.

Perryville—Stove Works.—The firm of Armstrong & Co., manufacturers of stoves, have incorporated under the name of the Armstrong Stove & Manufacturing Co. with a capital stock of \$75,000. The directors are William Armstrong, president; James Gardner, vice-president; F. W. Jones, secretary; William H. Cole, each of Perryville; James Strong, of Baltimore, and Nelson E. Whitaker, of Wheeling, W. Va.

South Baltimore—Chemical Works.—The Monumental Chemical Works has commenced work on the new plant to be put up at South Baltimore.

Sparrow's Point—Rolling Mills.—The Maryland Steel Co.'s mills have resumed operations, and the management expects to have the entire plant running on full time in a couple of months. About 300 men will be put to work at present.

MISSISSIPPI.

Greenville—Water Works.—The city is preparing to arrange for the construction of the water works system which has been contemplated for some time. Bids were to be opened on August 1.

Grenada—Mercantile.—C. C. Perkins, J. H. Bernard and R. A. Miller have incorporated the R. A. Miller Co. for the purpose of conducting a general mercantile business. The capital stock has been placed at \$10,000 in shares of \$50.00 each.

Hazlehurst—Lumber Mill.—The Hazlehurst Lumber Co. will rebuild its lumber mill recently burned.

Natchez—Water System.—It is reported that the Natchez Water System & Sewer Co. will issue bonds to extend and enlarge its water works system in Natchez.

Vicksburg—Candy Manufacturing, etc.—The Bloomensieff Confectionery Co. has been incorporated to manufacture cakes, candies, etc. The capital is placed at \$3000.

MISSOURI.

Belleville—Concentrating Plant.—H. H. Gregg and Chris. Guengerich, of Joplin, will rebuild their concentrating plant at Belleville reported as destroyed by fire.

Chillicothe—Cannery.—The Chillicothe Canning Co. has been incorporated with a capital stock of \$10,000.

Chillicothe—Lumber Mills.—The Saunders-Turner Lumber Co. has been incorporated with a capital stock of \$25,000.

Kansas City—Real Estate.—The Union Realty Co. has been incorporated with a capital stock of \$2000.

Kansas City—Implement Works.—The Rock Island Implement Co. has been incorporated to manufacture agricultural implements. The capital stock is \$50,000.

Mayview—Coal Mines.—The Matthews Coal Co., now operating mines, has filed with the State a notice of an increase on its capital stock from \$12,400 to \$17,000.

Pacific—Corn and Flour Mill.—The Koppitz-Smith Mill Co. has been incorporated to mill flour and cornmeal. The capital stock is \$40,000.

Renick—Flour Mill.—The Renick Milling Co., whose flour-milling plant was lately destroyed by

fire, has not as yet determined whether it will rebuild or not.

Springfield—Mercantile.—The Gillespie Mercantile Co. has been incorporated with a capital stock of \$5000.

St. Joseph—Drug Company.—The Elfred Drug Co. has been chartered with a capital stock of \$6000.

St. Joseph.—The Rainalter Grocery Co. and the Trips Grocery Co. have been incorporated, each with a capital stock of \$2000.

St. Louis—Box Factory.—W. Voightman will rebuild his paper-box factory lately reported as burned.

St. Louis—Coal Mining.—The Benton Coal Co. has been incorporated to mine coal with a capital stock of \$50,000.

St. Louis—Construction Company.—The J. A. Ware Construction Co. has been incorporated with a capital stock of \$15,000.

St. Louis—Mercantile.—The Bollman-Doum-heller Music Co. has been incorporated to deal in music and musical instruments with a capital stock of \$25,000.

St. Louis—Real Estate.—The Marlborough Realty Co. has been incorporated with a capital stock of \$60,000.

St. Louis.—The Gerardi Restaurant Co. has been incorporated with a capital stock of \$50,000.

St. Louis.—The Lincoln Heights Subdivision Co. has been incorporated with a capital stock of \$36,000.

St. Louis.—The Hubbard, Price & Puck Commission Co. has been incorporated with a capital stock of \$15,000.

St. Louis—Furniture Company.—A charter has been issued to the Henry Kotte Furniture Co., with Henry, Louis and George Kotte as the incorporators. The capital stock is placed at \$10,000.

NORTH CAROLINA.

Asheville—Knitting Mills.—The United Industrial Co., of New York, it is stated, wishes to utilize the water-power of the Swannanoa river in operating a large knitting factory. W. R. Whitson, of Asheville, is interested.

Beaver Dam—Cotton Gin.—Lee & Marsh will rebuild their recently burned gin.

Charlotte—Gold Mine.—E. H. Hinson has found a new vein of gold at the Surface Hill mine and is preparing to work it immediately.

Concord—Gold Mine.—The Biggers gold mine in Cabarrus county has been sold by R. Eames, Jr., and A. C. Mauney, of Gold Hill, to the Gold Nugget Co., of New York. The price paid is said to have been \$30,000.

Excelsior—Turpentine Distillery.—Jno. W. King will arrange for the early rebuilding of his turpentine distillery lately burned.

Fayetteville—Soap Factory.—The erection of a soap factory in Fayetteville is rumored.

Monroe—Flour Mill.—T. N. Lee & Son have completed a new flour mill and put the machinery in operation.

Mt. Airy—Tobacco Factory.—A large leaf factory for the use of the American Tobacco Co. is now in course of erection by Rufus Roberts.

Roxboro—Cigar Factory.—Murphy Brothers have started a cigar factory.

Waynesville—Mill.—W. H. Cole has secured a site for the new mill which he intends building and will soon commence work on it. The machinery outfit is already secured.

Wilson—Tobacco Factory.—The Wm. Carter Tobacco Co. is erecting a new leaf factory.

Winston—Tobacco Factory.—Ora and Jno. Kerner will erect a tobacco factory and have let contract for its erection to T. B. Crawford & Co. The building will be 100x45 feet, three stories high.

SOUTH CAROLINA.

Anderson—Shoe Company.—James P. Gossett, W. G. B. Gossett and James L. Brown have incorporated the James P. Gossett Shoe Co. with \$10,000 capital to conduct a shoe business.

Barnwell—Cottonseed-oil Mill.—The Barnwell Oil Co. has increased the capacity of its cottonseed-oil mill from thirty to forty-five tons daily. The most improved machinery, made by the Van Winkle Gin & Machine Co., of Atlanta, was put in.

Batesburg—Cotton Mill.—Work on the proposed cotton mill at Batesburg began August 14. It will be erected as soon as possible and will be equipped with the latest improvements in textile machinery.

Charleston—Cold Storage.—C. F. Meyers, William Mappus, G. W. Meyer, A. S. Grant and F. L. Hackermann have incorporated the Cold Storage Manufacturing & Transportation Co. with \$5000 capital. The concern's purpose is to manufacture and buy patents of food-transporting vehicles.

Charleston—Stone Quarrying.—Robert Currell, W. M. Bird and others have incorporated the Cumberland Buff Stone Co. They will develop

stone quarries; also do a contracting business; capital \$30,000.

Cheraw—Hardware Company.—C. L. Evans and H. P. Duvall have incorporated the Cheraw Hardware & Supply Co. with a capital stock of \$5,000.

Florence—Cotton Mill.—Strong prospects of the erection of a cotton mill are developing in Florence. H. L. Odiorne is much interested and has submitted to the citizens a proposition for a \$250,000 company, \$150,000 of which a Northern capitalist will subscribe for.

Lowndesville—Mercantile.—A commission for the E. R. Horton Co. has been issued by the State, its purpose being to deal in general merchandise. The incorporators are J. W. Hardin, E. O. Clinkshales, H. O. Tennant, J. M. Young and E. R. Horton. The capital is \$5000.

Spartanburg—Mercantile.—The Cannon Co. has been incorporated by Thomas H. Cannon, Charles H. Carlisle and H. A. Ligon to do a mercantile business. The capital stock is \$25,000.

TENNESSEE.

Chattanooga—Mercantile.—D. B. Loveman, James McLeod, J. N. Mills, Herman Fritz and George Harvey have applied for a charter for the D. B. Loveman Co.

Dickson—Saw Mill.—A Russell saw-mill outfit has been purchased by Miller & Beakley, who will at once arrange to commence operations.

Dickson—Saw Mill.—Dougherty & Holden have purchased a Russell saw-mill outfit and intend to erect a mill at once.

Harriman—Vinegar Works.—A. V. Ball has established vinegar works.

Mileston—Saw Mill.—Dunn Bros. will at once erect a saw mill and commence operations. A Russell sawing outfit has been purchased.

Newport—Planing Mill.—Swagerty & Eubank will rebuild their planing mill reported in this issue as burned.

TEXAS.

Alvin—Public Improvements.—Contract has been let to Thomas & Uzzle and Lee & Co. for constructing a drainage system and grading a number of the principal streets.

Ballinger—Water Works.—The contract for erecting a system of water works for the city of Ballinger has been let. M. P. Kelly, of La Grange, was the successful bidder, obtaining the contract at \$14,750. Work on the plant is to commence within sixty days and be completed within nine months.

Barstow—Fruit Company.—John McKillop, Arthur S. Barney, Fred S. Farwell, Walter S. Williams, Geo. E. Barstow and a number of others have incorporated the Farwell Fruit Co. with a capital stock of \$30,000.

Bastrop—Cottonseed-oil Mill.—The recently noted cottonseed manufacturing company has fully organized and applied for a charter under the name of the Powell Oil Co. with a capital stock of \$50,000. All the machinery has been bought and grinding will commence on the first day of September. W. C. Powell is president of the concern.

Beaumont—Dry-kilns.—The Thompson & Tucker Lumber Co. will at once arrange to rebuild its burned dry-kilns.

Beaumont—Tannery.—Joseph Montgomery and W. M. Woodward have established a tannery near the city.

Bonham—Water Works.—Work on the city's new water system is progressing rapidly. Five miles of pipe to cost \$12,000 and standpipe and boilers to cost \$8233 have been ordered and will shortly be placed in position. H. C. Alexander is chairman of the water works committee.

Buffalo—Cotton Ginnery.—The cotton ginning plant which J. M. Pearlstone & Son intend erecting is to cost about \$5000.

Duncanville—Cotton Gin.—Kimbale & Brandenburg will enlarge their cotton gin and put in a new and larger engine.

Galveston—Bottling Works.—The Italian Soda Water Association has been chartered with a capital of \$35,000 to bottle mineral waters at Galveston. C. Casiruni and C. Nicolini are among the directors.

Galveston—Publishing Company.—Angus McDonald, J. Singer and S. J. Flanagan have incorporated the McDonald Publishing Co. with a capital stock of \$20,000.

Georgetown—Land Company.—J. W. Hodges, J. N. Ellison, F. W. Carothers, Joseph W. Robertson and W. K. Makemson have incorporated the Williamson County Land & Abstract Co. with a capital stock of \$5000.

Houston—Cottonseed Company.—C. S. Wiggs, H. B. Rice and H. F. MacGregor have incorporated the Texas Cottonseed Co. with a capital stock of \$20,000.

Ladonia—Ladder Factory.—The Crews Ladder Manufacturing Co., reported last week as chartered, has the following directors: D. H. Crews, J. I. Faison, D. E. Waggoner, W. L. Reed and R. M. Estill.

Llano—Ice Factory.—The Llano Ice Co. will rebuild its factory reported in this issue as burned. Arrangements will be made at once for an early commencement of work on the new plant.

Lockhart—Cottonseed-oil Mill.—The cottonseed-oil mill reported last week as let to contract will be operated by the Lockhart Oil Mill & Power Co. This concern has just received its charter from the State, the directors named being A. R. Chew, Wm. M. Steele, Samuel Lessner, I. S. Lewis, of Lockhart, and D. Beaz, of Houston. The capital stock is \$50,000.

Marlin—Electric-light Plant.—The Marlin Oil Co. has announced its intention to enlarge its electric-lighting plant to some extent.

McKinney—Wharf Company.—J. L. White, J. S. Heard, Jesse Shain, W. B. Newsome and S. D. Heard have incorporated the McKinney Wharf Co. with a capital stock of \$25,000. Their purpose is to erect a wharf for storing and handling cotton.

Nacogdoches—Saw and Planing Mills.—The saw and planing mills of R. H. Lee, recently burned, will soon be rebuilt.

Orange—Manufacturing.—It is rumored that a new enterprise to employ 150 men and distribute \$5000 each month will soon be established.

Orange—Stave and Heading Mill.—J. R. Davis is engaged in building a stave and heading factory at the Bancroft Mill.

Paris—Cooperage Plant.—Mr. Kipling, of Sherman, desires to locate a cooperage plant in Paris, and is endeavoring to secure a suitable site.

San Antonio—Pottery.—N. Mackey, recently reported as to organize a pottery company, has perfected an organization and will at once make arrangements for equipping the plant. Considerable machinery will be bought.

Temple—Ice Factory.—The city intends to build an ice-making plant, and contract for the machinery will be let within thirty days. Wm. Carton, mayor, can give any desired information.

Tyler—Warehouse Company.—The company recently noted as organized to build a warehouse has obtained a charter under the name of the Tyler Warehouse Co. with its capital stock at \$20,000. The incorporators are D. A. Harris, G. G. Taylor, G. R. Phillips, R. H. Browne, J. H. Brown and several others.

VIRGINIA.

Berkeley—Ink, etc., Factory.—A Norfolk firm proposes to erect a washing blue, yeast powder and ink factory in Berkeley. It is now engaged in an endeavor to secure a suitable site for the enterprise.

Christiansburg—Gold Mines.—H. D. Walters is sinking a shaft near Fisher's View prospecting for gold, and indications of a rich deposit are very good.

Dayton—Sash, Door and Furniture Factory.—Swartz & Bowman have determined to erect a sash, door and furniture factory. A site has been purchased from Professor Fries and work on the plant will soon be started.

Fincastle—Flour Mill.—M. R. Rogers is putting in a new roller-process flour mill of the latest pattern, and will have it in operation in about a week. The entire outfit is being furnished by the Corbett Mill & Machine Co., of Washington, D. C.

Fredericksburg—Silk Mill.—The addition to the silk mill of C. W. Wilder & Co. is two stories high and built of brick. It will contain 10,000 spindles in addition to the number now in operation.

Front Royal—Ice Factory.—The Front Royal & Riverton Improvement Co. is thinking of erecting an ice factory next spring.

Iron Gate—Iron Furnace.—The Allegheny Furnace will shortly go into blast, instructions to that effect having been received last week by Merriweather Jones, manager of the plant.

Lynchburg—Tobacco Factory.—John Katz, Jr., has let contract for the erection of a new leaf factory three stories high, 60x132 feet.

Norfolk—Basket Works.—The Norfolk Basket Works will be rebuilt. A fire destroyed the plant very recently.

Norfolk—Pants Factory.—The Norfolk Pants Co. has been incorporated with a capital stock of \$25,000 for the purpose of manufacturing pants.

Richmond—Mining and Manufacturing.—The Mansfield Tripoli Co. has been incorporated for mining and manufacturing. The capital stock is placed at \$100,000.

Roanoke—Drug Company.—The Charles Lyle Drug Co. has been incorporated with a capital stock of \$20,000 for the purpose of dealing in drugs, etc.

Roanoke—Iron Mines.—The Castle Rock Mining Co. has completed a branch railroad to its mines near Roanoke, and shipments of ore will commence very soon.

Stephens City—Flour Mill.—The Stephens City Steam Flouring Mill Co. has been incorporated with a capital stock of \$15,000.

WEST VIRGINIA.

Charleston—Brick Works.—It is stated that J. S. McDonald will organize a brick manufacturing company. A good vein of fire-clay was recently found on Mr. McDonald's land, Elk river, and this property he proposes to utilize.

Charleston—Nut Works.—Joseph E. Simms will erect at once a plant for the manufacture of his

patent self-locking nuts. About fifty men will be given employment.

Davis—Saw Mill.—W. H. Osterhout, of Ridgeway, Pa., has purchased the Blackwater Boom & Lumber Co.'s property near Davis for \$110,000, and, it is stated, intends erecting a large saw mill on the tract at once.

Morgan—Coke Ovens.—Hugh McLean is at work on the erection of a number of coke ovens.

Moundsville—Oil Well.—The Marshall County Oil, Gas & Coal Co. is preparing to drill for oil on Hicks tract, near Moundsville. W. M. Morgan is the manager of the company.

Piedmont—Paper Mill.—Luke Bros. contemplate increasing the capacity of their paper mill until it will use the entire output of their wood-pulp mill. Paper from rags will also be manufactured soon.

Point Pleasant—Flour Mill.—Stone & Lyons will rebuild their burned flour mill.

Wellsburg—Coal Mines.—The Gilchrist Coal Co. has leased coal lands from opposite Mingo to Wellsburg, and will immediately institute thorough developments, employing about 100 men. Inclines and tipples will be built and full mining plant installed.

Wheeling—Brewery Enlargement.—The new additions to the Reymann brewery, noted last week, will consist of a storage house and cooper shop. The Reymann Brewing Co. owns the plant and has already let contract for the improvements.

BURNED.

Baltimore, Md.—Edward McCann's house and stable; loss estimate \$500.

Barnard, Mo.—Business houses of Hubbard & Co., Humbert Bros., J. C. Curruet & Co. and Dearing & McFarland; loss estimate \$25,000.

Baton Rouge, La.—White & Dear's steam gin in the fifth ward.

Bellevue, Mo.—The concentrating plant owned by H. H. Gregg and Chris Guengerich, of Joplin.

Berlin, Md.—The Berlin Saw Mill; loss \$7000.

Hull, Ala.—The Tuscaloosa Lumber Co.'s mills; loss \$15,000.

Isabella, Ga.—The county courthouse.

Kramer, Ga.—The Gress Lumber Co.'s dry-kilns.

Llano, Texas.—The Llano Ice Co.'s factory; loss \$13,000.

Louisville, Ky.—Rau Bros.' tin store; loss \$18,000.

Louisville, Ky.—Crutcher & Stork's clothing store; loss \$62,000.

Maylene, Ala.—The Monarch Lumber Co.'s dry-kilns and 70,000 feet of lumber.

New Orleans, La.—Steamer Grover Cleveland plying on the river; loss estimate \$12,000.

Newport, Tenn.—Swagerty & Eubank's planing mill.

Norfolk, Va.—Colored Masonic Temple; loss estimate \$500.

Pulaski City, Va.—E. B. Hatcher & Co.'s store; loss \$20,000.

Zuni, Va.—Norfolk & Western station.

BUILDING NOTES.

Atlanta, Ga.—Auditorium.—The Gate City Guards have purchased a site for a building which is to contain an armory and an auditorium. It is to cost about \$80,000 and the auditorium is to seat 4000 people. Capt. J. F. Burk may be addressed.

Augusta, Ga.—Church.—The congregation of Trinity Methodist Church (colored) has begun the erection of a new edifice.

Baltimore, Md.—Carhouse.—The Baltimore Traction Co. has obtained a permit to build a brick structure 164x203 feet at Mount Royal avenue and McMechin street for the purpose of storing electric and other cars.

Baltimore, Md.—Penitentiary Enlargement.—Plans are being prepared for extensive additions to the Maryland penitentiary. New quarters for the warden, also dormitories for prisoners, will be erected and the present dormitories altered for workshops. About \$100,000, it is thought, will be expended in improvements.

Baltimore, Md.—School.—The school to be built at Walbrook Park is estimated to cost \$25,000. Bids are still solicited, as those received exceed this amount.

Brazoria, Texas—Courthouse.—Citizens of Brazoria county have petitioned the county commissioners to erect a new courthouse to cost \$50,000.

Brunswick, Md.—Church.—Work has commenced on the Presbyterian church to be erected. The corner-stone has been laid.

Chesterdown, Md.—Town Hall.—The corporation will erect a public building to contain the town offices, a hall, the postoffice and fire department quarters. Address the town commissioners.

Clayton, Mo.—Courthouse and Jail.—Improvements to the courthouse and jail to cost \$25,000 will be made. Address clerk of the county court.

Cumberland, Md.—Buildings.—Dr. J. J. Wilson has begun the erection of a two-story business block. He will also erect two other buildings of brick for stores. A brick storehouse to be used by E. H. Welsh for fruit trade is also to be erected.

Douglasville, Ga.—Hall.—Work has begun on a hall for Douglasville College. The building is to be 100x50 feet and will accommodate 1000 people.

Dulaney's Valley, Md.—Church.—A site has been secured for erecting a Methodist church. Alfred G. Lee is interested in the proposed structure.

Durham, N. C.—Business Block.—S. W. Holman & Co., plumbers, will construct a three-story brick building 36x65 feet for their business.

Fort Worth, Texas.—E. E. Chase writes that he is preparing plans for rebuilding his residence, Bellevue Hall. It will be one of the finest in the South and will cost nearly \$100,000. He may be addressed.

Homerville, Ga.—Jail.—The Marly Manufacturing Co., of Dalton, Ga., will build a brick jail building at Homerville. It is to cost \$1999.

Jasper, Ga.—College.—Efforts are being made to raise funds for building a college at Jasper which is to be conducted by the Baptist denomination.

Kansas City, Mo.—Clubhouse.—The clubhouse to be erected by the Progress Club will cost \$28,000. It will be of pressed brick, with terra-cotta trimmings, and contain bowling alleys, billiard and card rooms, reception and banquet halls. Gwinn & Curtiss are architects.

Little Rock, Ark.—Hospital.—The city has purchased the United States hospital and will remodel and improve it for public use.

Luray, Va.—Courthouse.—The county commissioners have decided to remodel and improve the present courthouse building. The town clerk will furnish information.

Memphis, Tenn.—Courthouse Repairs.—The contract for remodeling and repairing the Shelby county courthouse has been let to Joseph Haynes for \$9950.

Meridian, Miss.—Masonic Building.—The several lodges in Meridian are raising funds to erect a building for lodge purposes, etc., to cost \$50,000. A site for the building has been obtained.

New Orleans, La.—Freight Sheds.—The Southern Pacific Railroad Co. will build a large iron cotton shed in its New Orleans yards. It is reported that the Louisville & Nashville Railroad Co. is about to erect a steel freight shed.

New Orleans, La.—University.—The trustees of Tulane University are about ready to receive bids for the \$250,000 addition it is proposed to make to the buildings. Harrod & Andry are the architects.

Norfolk, Va.—School.—The school board will receive bids for a \$15,000 building. It is to contain a tower clock to be wound by electricity.

Norfolk, Va.—Church.—The plans for the \$100,000 church to be built by the Granby street Methodist congregation have been changed. The edifice is to be built in the Romanesque style, with tower ninety feet high. The material will be Carolina granite. Besides the auditorium, apartments will be provided for Sunday school, ladies' parlor, kitchen, dining-room and lavatories. Carpenter & Peebles are the architects.

Norfolk, Va.—Fire Engine-house.—The city council has decided to erect a fire engine-house with the necessary stalls for horses and facilities for apparatus, etc. Address the mayor.

Petersburg, Va.—Church.—The Second Baptist congregation have decided to build a new edifice and have let the contract for its construction.

Petersburg, Va.—Church.—Contracts have been awarded for the construction of the Second Baptist Church. It is to cost \$10,000.

Pocahontas, Va.—Courthouse and Jail.—Mayor R. W. Witten wants bids for the \$6000 courthouse and jail to be erected. Work will be commenced on the structure within sixty days.

Rancho, Texas—Church.—It is stated that the Baptists of Rancho have begun the construction of a new edifice.

Ridgedale, Tenn.—Hotel.—It is reported that a hotel is to be built by Dodds Bros., of Ridgedale.

Roanoke, Va.—Gymnasium.—A gymnasium is to be added to the Roanoke College and plans are being prepared. Dr. J. D. Dreher is interested.

Rock Hill, S. C.—College.—Bruce & Morgan, of Atlanta, Ga., will prepare plans for the college to be built at Rock Hill by the State. Address W. B. Dunlop, secretary.

Rock Hill, S. C.—College.—Bruce & Morgan, of Atlanta, Ga., will be the architects for the Winthrop Normal College. It has finally been decided to erect a building 200x170 feet, to cost \$60,000 in all. Bids for building will soon be solicited.

Snow Hill, Md.—Business Blocks, etc.—G. M. Dryden and M. S. Wilson have awarded contracts for brick buildings to replace those destroyed by fire. The First National Bank will erect a new building. L. A. Purnell will erect a large hotel.

Sumter, S. C.—Opera-house.—The opera-house now being built will be provided with all the necessary scenery, etc., and will cost complete about \$30,000. The mayor will furnish information.

Throckmorton, Texas—Jail.—A jail to be built of rough stone is planned. It is to cost \$15,000.

Wadesboro, N. C.—Courthouse.—The Anson county courthouse will be repaired and im-

proved. H. W. Ledbetter will give information. Bids are solicited until September 2.

Washington, D. C.—Church.—St. Benedict's Catholic Church will be built by John McKnight, of Baltimore. The material is to be Georgetown gneiss rock, with marble trimmings. The architecture will be Romanesque. The edifice will have a tower 180 feet high and is to cost \$50,000.

Washington, Ky.—Church.—The Baptist church at Washington, it is stated, is to be rebuilt. The Bracken Association is collecting a fund for the purpose.

West River, Md.—Hotel.—It is stated that Baltimore capitalists have purchased a tract of land from George W. Hyde on which they will build a hotel to cost \$20,000.

RAILROAD CONSTRUCTION.

Railroads.

Baltimore, Md.—It is reported that the work of extending the Washington & Potomac line from Mechanicsville to Point Lookout, at the mouth of the Potomac river, may be commenced in a few weeks. The line is in Southern Maryland, and is in operation from Brandywine, on the Baltimore & Potomac, to Mechanicsville. The proposed extension is thirty-five miles long. John P. Poe, of Baltimore, is interested.

Baltimore, Md.—The Baltimore, Middle River & Sparrow's Point Railroad Co. has elected Thomas B. Gatch, president, and Levin F. Morris, secretary. The company has applied to the county commissioners for a franchise to build the road.

Baltimore, Md.—The short line which the Baltimore & Ohio is constructing on its Washington branch near Relay station will avoid an extensive curve and will lessen the distance between Baltimore and Washington several miles. The short line is ready for track-laying.

Beaumont, Texas.—President John H. Kirby, of the Gulf, Beaumont & Kansas City, is making preparations to let contracts for constructing a section of the line. About six miles of track have already been laid. Two more locomotives will be added to the rolling stock.

Elkins, W. Va.—Chief Engineer Moore, of the Dry Fork Railway Co., has begun surveys for the line. It will probably be combined with the Point Pleasant, Buckhannon & Tygart's Valley road, forming a line from Buckhannon to Elkins along Roaring creek. It will connect with the West Virginia Central at Elkins.

Knoxville, Tenn.—The work of surveying the Star Mountain Railway is about completed, and Nicholson & Gage, of Knoxville, have the contract for constructing it. The road extends to the ore mines near Knoxville. Nicholson & Gage will give information.

Maysville, Ky.—An electric railway is projected between Maysville and Mount Olivet by way of Germantown or Murphysville. The route is eighteen miles in length.

Middletown, Md.—Surveys are being made from Middletown to Myersville for the extension of the electric road about to be constructed between Frederick and Middletown.

Palm Beach, Fla.—The Jacksonville, St. Augustine & Indian River or South Florida road has been graded to West Palm Beach, and it is expected to have trains running to that point by October 1. Nearly 1500 men are engaged on its construction.

Sedalia, Mo.—The Springfield & Sedalia Construction Co. has been incorporated in Missouri by John T. Robbins, M. J. Shelley and Richard Dunsford; capital stock \$50,000. It is reported that the company is incorporated to build the proposed railway between Springfield and Sedalia. The plans include the purchase of the Sedalia, Warsaw & Southern, a narrow-gauge road from Sedalia to Warsaw, which will be changed to standard gauge.

Thurber, Texas.—General Manager Hamilton, of the Texas Central, announces that work on the proposed extension of this road to Thurber will be started this month. The new line will furnish an outlet to market for the Texas & Pacific Coal Co.'s mines near Thurber.

Street Railways.

Augusta, Ga.—The Augusta Electric Railway Co. has asked for a franchise to extend its lines on several of the city streets for hauling freight to the various warehouses as well as carrying passengers. Special motors will be built expressly for the purpose.

Baltimore, Md.—The City & Suburban Railway has ordered twenty-five cars for its Maryland avenue and Highlandtown division. The Maryland avenue line will be equipped with electric motors about September 1.

Baltimore, Md.—The City & Suburban Railway Co., it is stated, will rebuild its Baltimore and Hampden line for electric motors, and will shorten the distance from Baltimore to Hampden by constructing a viaduct across Jones's falls 1100 feet long. The line is about four miles in length.

Baltimore, Md.—The City Passenger Railway Co. has begun work on its South Baltimore division, which is to be equipped with electric motors. A. M. Connett is engineer in charge.

Baltimore, Md.—The Baltimore Traction Co. has rebuilt its Linden avenue division, and will place electric motors on it in a few days. The line will be operated from the centre of the city to Druid Hill Park.

Brunswick, Ga.—It is stated that Messrs. A. H. Lane and others, who recently purchased the Brunswick Street Railway, will operate it with steam dummy engines for the present, and will purchase several dummies. It is intended to extend the line to belt the city.

Meridian, Miss.—The Meridian Street Railroad Co. has been absorbed by the Edison Light & Power Co., which will change the power used to electric and rebuild and extend the lines.

MACHINERY WANTED.

Boiler.—A forty horse-power locomotive-type boiler is wanted by the Maryland Clay Co., Manufacturers' Record Building, Baltimore, Md.

Clay Cars.—The Maryland Clay Co., Manufacturers' Record Building, Baltimore, Md., is in the market for eighteen platform clay cars to run into dry-kiln.

Cotton-mill Machinery.—The Crowder Mountain Cotton Mill, King's Mountain, N. C., will want 100 looms soon. Address P. S. Baker, general manager.

Elevators.—P. H. Hanes & Co., Winston, N. C., will want elevators for tobacco factory.

Engine.—A twenty horse-power horizontal slide-valve engine is wanted by the Maryland Clay Co., Manufacturers' Record Building, Baltimore, Md.

Filter Press.—One 72-chamber or two 36-chamber filter presses, to run by power for filtering kaolin, is wanted by the Maryland Clay Co., Manufacturers' Record Building, Baltimore, Md.

Ginning Machinery.—E. L. Houghton, Pittsboro, N. C., wishes to purchase ginning machinery, to include a gin and condenser. Address E. L. Houghton, cotton ginner.

Lathe.—Wm. C. Codd, 119 North Broadway, Baltimore, Md., wants a second-hand 40 to 48-inch swing lathe, any length bed.

Molding Machines.—George Fearn, Jr., Mobile, Ala., wants to communicate with manufacturers of molding machines for iron castings.

Pottery and Tile Machinery, etc.—N. Mackey, San Antonio, Texas, will want two seven-foot wet pans, one nine-foot dry pan and a machine for making 8x8 tile for paving.

Pump.—J. Northcott, Fort Meade, Fla., wants bids on a steam pump.

Pump.—The Maryland Clay Co., Manufacturers' Record Building, Baltimore, Md., is in the market for double-slip pump for pumping fine clay.

Sewer-pipe Machinery.—N. Mackey, San Antonio, Texas, will want a sewer-pipe press.

Snuff Machinery.—X. Y. Z., care MANUFACTURERS' RECORD, Baltimore, Md., wants estimates on cost of snuff machinery and other particulars.

Steam Trap.—J. P. Little, Sumner, Fla., wants a steam trap to take water from 800 feet of three-quarter-inch pipe.

Stump Puller.—J. Northcott, Fort Meade, Fla., wants a stump puller.

Tram Cars.—The Etna Furnace Co., of Etna, Ga., wants to purchase tram cars suitable for hauling ore from its mines. Manufacturers and others may write to the address given.

Vinegar Machinery.—A. V. Ball, Harriman, Tenn., may want machinery later on for his vinegar works.

Water-works Apparatus.—The corporation of Winchester, Va., is in the market for pumping machinery for an improved system of water works. It is intended to erect a stand-pipe or lay a series of 12-inch pipes to a reservoir. The town has a population of about 3500. Address C. E. Hoover.

Fire Hose.—The city of Cumberland, Md., will purchase 2000 feet of fire hose. Address the fire committee of the city council.

The Phoenix Hotel has just been completed at Winston, N. C., and a full complement of furniture will be wanted for its ninety rooms. Address P. H. Hanes & Co.

SOUTHERN FINANCIAL NEWS.

New Banks.

Wheeling, W. Va.—A scheme to form a new State bank is being promulgated.

Abbeville, La.—A branch of the Fidelity Trust & Loan Co. has been organized with J. T. Abshire, president, and Albert Le Blanc, vice-president. The main office of the company is Mobile, Ala.

Abilene, Texas.—W. G. Swanson has been appointed receiver of the Pioneer Manufacturing Co.

Alvord, Texas.—It is reported that the People's Bank has suspended; assets and liabilities are unknown. It was a private institution.

Austin, Texas.—The People's Loan and Building Association, with \$500,000 capital, has been organized to do a general business in real estate, etc.

Baltimore, Md.—The Friedenwald Co., consisting of Joseph Friedenwald and others, has been incorporated with \$65,000 capital. The concern has been in business a number of years.

Big Stone Gap, Va.—The Bank of Big Stone Gap, with \$50,000 capital, has suspended. W. H. Nickels is president.

Birmingham, Ala.—It is stated that the First National Bank, which recently suspended, will resume business in a short time.

Decatur, Ala.—The First National Bank, capital \$100,000, has suspended. Its assets are \$179,000 and liabilities \$69,000.

El Paso, Texas.—The El Paso National Bank has suspended and is now in charge of a bank examiner.

Farmville, Va.—The Commercial Savings Bank of Farmville has made an assignment to William G. Venable.

Florence, Ala.—Receiver H. M. Hall has paid depositors of the suspended Florence National Bank \$8000 of their deposits. This is 25 per cent. of the total amount.

Fort Worth, Texas.—The Fort Worth Abstract Co. has been chartered with \$100,000 capital to make searches of deeds, abstracts of titles, etc. Z. C. Ross and H. M. Chapman, of Fort Worth, are among the directors.

Gadsden, Ala.—The First National Bank has suspended with assets nearly double its liabilities. Its capital is \$50,000.

Georgetown, Texas.—The Williamson County Land Abstract Co. has been chartered by J. W. Hodges and others with \$5000 capital.

Goldsboro, N. C.—The Bank of Wayne has declared a semi-annual dividend of 4 per cent., amounting to \$5000.

Kansas City, Mo.—Comptroller Eckels has given the National Bank of Kansas City permission to resume business. It will open its doors about September 1.

Kansas City, Mo.—The Standard Manufacturing Co., dealer in hay presses, etc., has made an assignment; assets \$75,000, liabilities \$42,000.

Kingston, Mo.—The Caldwell County Bank has been forced to suspend. Its capital is \$10,000.

Laurel, Md.—The Citizens' National Bank has declared a semi-annual dividend of 3 per cent.

Leesburg, Fla.—The Bank of Leesburg, it is reported, has suspended. Its liabilities are \$40,000 and assets \$90,000.

Lewisburg, Tenn.—It is reported that the People's Bank has been obliged to close temporarily, owing to the suspensions of Nashville banks. The assets are said to largely exceed the liabilities.

Lynchburg, Va.—The Lynchburg banks have organized under the title of the Associated Banks of Lynchburg, with Charles M. Blackford, president, and Camillus Christian, secretary. The object is mutual protection.

Meridian, Miss.—It is stated that the Edison Light & Power Co. will sell \$100,000 worth of 20-year 8 per cent. bonds to equip the city street railways with electric motors.

Montgomery, Ala.—The banking-house of Josiah Morris & Co. has closed temporarily. Inability to realize on good paper forced this action.

Nashville, Tenn.—It is announced that Odil & Co., produce dealers, have assigned. The liabilities aggregate \$14,000.

Nashville, Tenn.—Demands by depositors for all their money have forced the First and American National Banks and the City Savings Bank to suspend. The national banks each have \$1,000,000 capital and ample assets. The savings bank has \$40,707 90 deposits secured by assets \$151,500.

Natchez, Miss.—The Natchez Water Supply & Sewer Co. will issue \$300,000 worth of 6 per cent. bonds to refund its present debt and to extend its water-works system.

Norfolk, Va.—The Virginia Farmers' Insurance Co. has been chartered by T. H. Stiff and others with \$25,000 capital.

Piedmont, W. Va.—The Davis National Bank has declared a dividend semi-annual of 3 per cent.

Plaquemine, La.—The Bank of Plaquemine has been forced to suspend. Its capital is \$50,000.

Polo, Mo.—The Exchange Bank, capital \$10,000, has suspended. John D. Cox, the principal stockholder, was also at the head of the Caldwell County Bank.

Richmond, Va.—The Capitol Building and Loan Association has declared a 3½ per cent. semi-annual dividend.

San Antonio, Texas.—J. L. Starr Hunt has been appointed receiver of the suspended Texas National Bank.

Sonora, Texas.—The Sutton County Bank, with \$15,000 capital, has suspended.

Springfield, Mo.—The Bank of Springfield, with \$100,000 capital, has suspended.

Starkville, Miss.—W. G. Sykes has been appointed receiver of the First National Bank, which suspended some time ago.

St. Louis, Mo.—S. C. Cabanne has been appointed receiver of the St. Louis Enclosing & Mailing Co. It is a small concern organized for the purposes specified in its title.

Talladega, Ala.—A receiver has been appointed to conduct the business of the Talladega Ice Co. James H. Newman will fill the office.

Vernon, Texas.—It is reported that the Espula Land & Cattle Co. has gone into the hands of a receiver on a charge of mismanagement by one of the stockholders.

Vicksburg, Miss.—The Vicksburg Safe Deposit Co. has declared a dividend of 7 per cent.

Washington, D. C.—Stockholders of the Georgetown & Tennytown Electric Railway have decided to issue \$60,000 in bonds to refund the fixed and floating debt of the company.

Waxahachie, Texas.—It is reported that the Waxahachie National Bank, with \$100,000 capital, has suspended.

Wellsburg, W. Va.—The Bank of Wellsburg, of which S. George is the principal stockholder, closed its doors August 8 with assets double its liabilities. The citizens held a meeting and passed a resolution of confidence in the bank's solvency, and it reopened for business the next day.

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